DOCUMENT RESUME

ED 364 722 CE 065 256

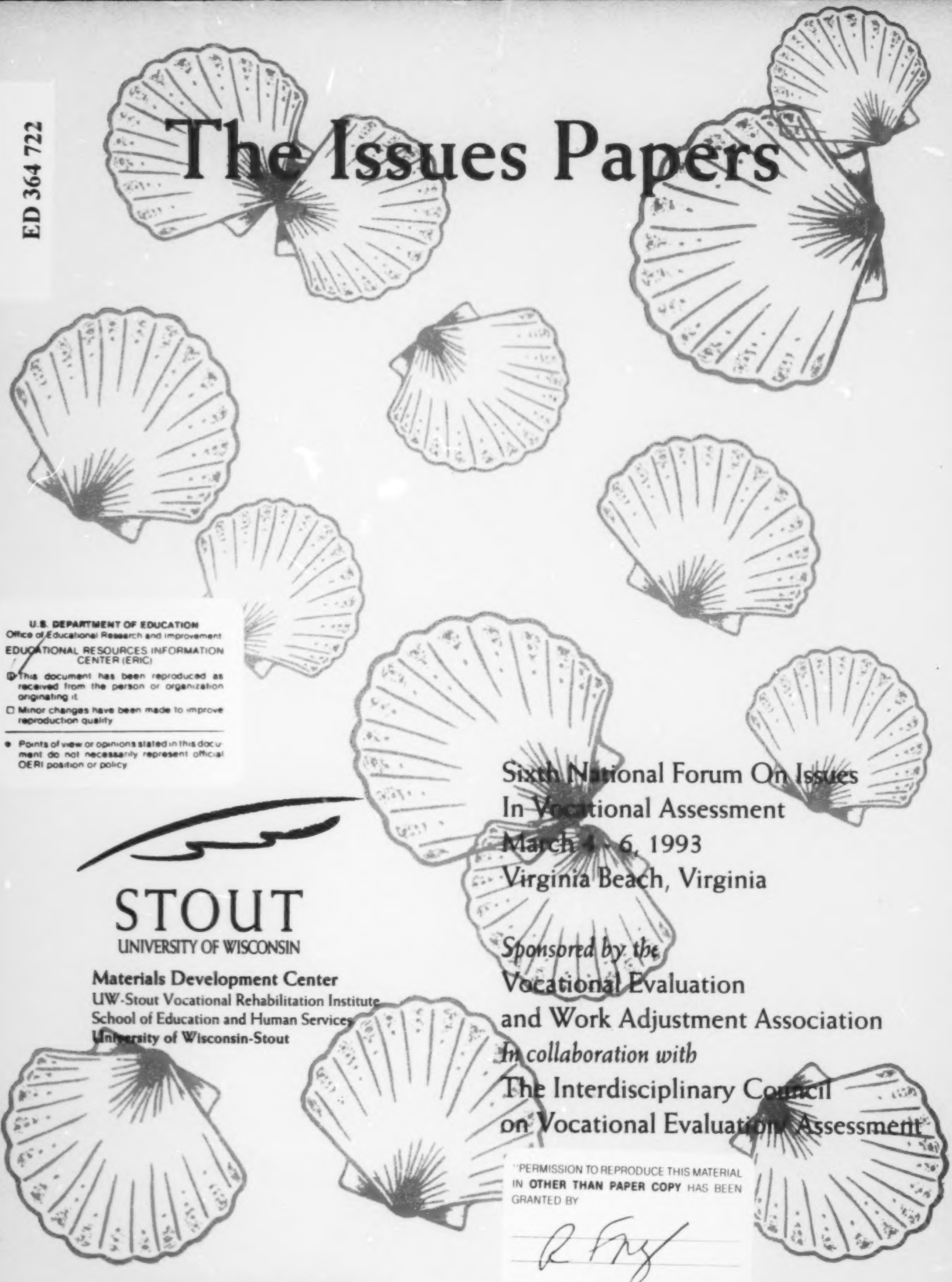
AUTHOR	Fry, Ronald R., Ed.; Garner, William E., Ed.
TITLE	The Issues Papers. National Forum on Issues in Vocational Assessment (6th, Virginia Beach, Virginia, March 4-6, 1993).
INSTITUTION	Wisconsin Univ.-Stout, Menomonie. Stout Vocational Rehabilitation Inst.
REPORT NO	ISBN-0-916671-97-6
PUB DATE	93
NOTE	340p.; Forum sponsored by the Vocational Evaluation and Work Adjustment Association in collaboration with the Interdisciplinary Council on Vocational Evaluation/Assessment. For the 1989 Issues Papers, see ED 315 608.
AVAILABLE FROM	Materials Development Center, Stout Vocational Rehabilitation Institute, School of Education and Human Services, University of Wisconsin-Stout, Menomonie, WI 54751.
PUB TYPE	Collected Works - Conference Proceedings (021)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Adult Education; Agency Cooperation; Coordination; Diagnostic Tests; *Disabilities; Disadvantaged; Employment Interviews; *Evaluation Methods; Federal Legislation; Occupational Tests; Postsecondary Education; Secondary Education; Special Education; Student Evaluation; Test Selection; Vocational Education; *Vocational Evaluation; *Vocational Rehabilitation
IDENTIFIERS	*Americans with Disabilities Act 1990

ABSTRACT

Selected papers are as follows: "Evolving Policy Paradigms and Legislative Implications for Vocational Assessment Services" (LeConte et al.); "Integrating Academic Competencies in Vocational Assessment, Education, and Training" (DeMoss, Horvath); "Americans with Disabilities Act (ADA)" (Thomas et al.); "Selecting Vocational Evaluation Tools" (McDaniel et al.); "Work Evaluation" (Ravicz); "Building Consensus" (Smith, Schuster); "Role of Language and Culture in Vocational Assessment" (Colyer, Smith); "Personnel Shortages in Vocational Evaluation" (Stewart); "Job Interviews under the ADA" (Kornblau); "Facilitating Self-Determination" (Kaskel, Oppenheim); "ADA Compliance" (Ellexson); "Standards for Best Practice in Vocational Assessment and Evaluation" (Dowd et al.); "Proposed Curriculum Model for Vocational Evaluation" (Pell, Taylor); "Effective Consumer-Counselor Interactions in Vocational Rehabilitation" (Czerlinsky); "Comparison of Recertification Requirements" (DeGraw, Stroud); "Using Behavioral Rating Scales as Part of Vocational Assessment" (McKenna); "Critical Vocational Behaviors" (Modahl); "Technology Considerations during the Vocational Evaluation Process" (Smith, McClain); "Assessing Needs, Supports, and Environments in Vocational Evaluation" (Sabousky et al.); "Work Adjustment Job Coach Service" (Davis, Barron); "Modifying Evaluation Process to Determine Reasonable Accommodations" (Parhamovich); "Vocational Expert Testimony" (Strauss); "Documenting Functional Performance Criteria in Work Capacity Evaluations" (May); "Report Writing" (Adams-Webber); "Facilitating Self-Determination with Vocational Assessment in Multi-Cultural Settings" (Akridge, Farley); "Expanding Vocational Evaluation Process through Assistive Technology" (Reed et al.); "Establishing Vocational Direction Utilizing Fantasy with Persons Who Are Severely Disabled" (Braunig); "Transition of Persons with Cognitive Disabilities" (Robinson); "Vocational Evaluation of Older Worker with a Disability" (Hursh); "Vocational Assessment of Individuals with Traumatic Brain Injury" (Krankowski, Culbertson); "Vocational Evaluation" (May); "Vocational Evaluation Using Adaptive Equipment for People with Vision Impairments" (Yang); "Learning Style Assessment and Reasonable Accommodations for Students with Learning Disabilities" (Sylvester); "Voc-Ed Exploration Survey" (Ensley); "Self-Determination" (Ginavan, Jozwiak); "Pre-Vocational Training" (Johnson); "Vocational Assessment of Students with Disadvantages" (Nolte, Waechter); "Vocational Assessment of Persons with Severe and Profound Disabilities" (Shanahan); and "Results of 1992 Multi-Cultural Task Force Survey" (Nussbaum et al.). (YLB)

ED 364 722

The Issues Papers



U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
● Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

Sixth National Forum On Issues
In Vocational Assessment
March 4 - 6, 1993
Virginia Beach, Virginia

Sponsored by the
Vocational Evaluation
and Work Adjustment Association
In collaboration with
The Interdisciplinary Council
on Vocational Evaluation/ Assessment

STOUT
UNIVERSITY OF WISCONSIN
Materials Development Center
UW-Stout Vocational Rehabilitation Institute
School of Education and Human Services
University of Wisconsin-Stout

"PERMISSION TO REPRODUCE THIS MATERIAL IN **OTHER THAN PAPER COPY** HAS BEEN GRANTED BY
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CE 065 256

BEST COPY AVAILABLE

Sixth
National Forum
on Issues in
Vocational Assessment

The Issues Papers

Edited by

Ronald R. Fry

and

William E. Garner

Papers presented at the Sixth National Forum on Issues in Vocational Assessment,
March 4-6, 1993, Virginia Beach, Virginia

Published by the Materials Development Center, Stout Vocational Rehabilitation Institute, School
of Education and Human Services, University of Wisconsin-Stout, Menomonie, WI 54751

Copyright © 1993

Materials Development Center
Stout Vocational Rehabilitation Institute
School of Education and Human Services
University of Wisconsin-Stout

ISBN: 0-916671-97-6

All rights reserved. No part of this book may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying or recording, or by any information storage or retrieval system without permission in writing from the publisher.

Views and opinions expressed by the authors of the papers within this document are solely those of the author(s) and are not the views and opinions of the Vocational Evaluation and Work Adjustment Association (VEWAA) or the publisher, the Materials Development Center (MDC). No endorsement by VEWAA or MDC of any product, idea, or opinion mentioned within is implied and should not be construed as such.

FOREWORD

The Sixth National Forum on Issues in Vocational Assessment was held at Virginia Beach, Virginia, March 4-6, 1993. The conference title, **Access to Productivity: Partnerships in Planning** accurately expressed the theme of the conference - collaboration amongst all professionals, regardless of their individual fields, to strengthen and promote the practice and progress of vocational evaluation and assessment.

The recently formed **Interdisciplinary Council on Vocational Evaluation and Assessment** played a very large and important part in the development of the Sixth Forum. Working in concert with the **Vocational Evaluation and Work Adjustment Association (VEWAA)**, representatives from vocational and special education, occupational and physical therapy, supported employment, and private rehabilitation helped share the up-front work of putting the conference together. And, representatives from those many fields came to the conference to present, socialize, and share similar and differing views.

The fifty-seven papers contained in this book reflect the wide range in which evaluation and assessment is practiced today. The purpose of this conference proceedings monograph is to ensure that those many messages presented at Virginia Beach will benefit others who were not able to attend that conference.

Hope to have all of you readers of this Sixth Forum proceedings at the Seventh National Forum in 1995.

Joseph M. Ashley, Rh.D.
Conference Coordinator

Ronald Fry
Conference Proceedings Co-Editor
and Publisher

William E. Garner, Rh.D.
Co-Editor

TABLE OF CONTENTS

Page

OPENING ADDRESS AND CONFERENCE WELCOME

The Potential Within Us
Susan L. Urofsky, Commissioner, Virginia Department of Rehabilitation Services, Richmond, Virginia 1

PROFESSIONAL CONCERNS

Evolving Policy Paradigms and Legislative Implications for Vocational Assessment Services
Pamela J. LeConte with contributions from Patricia Sitlington and Linda L. Hinton 5

Putting the Horse Before the Cart: The Transplanting of U.S. Vocational Assessment Methods Into the U.K.
John Chaplin, Bill Gillibrand, and Deborah Nolte 17

Integrating Academic Competencies in Vocational Assessment, Education, and Training
Sherry E. DeMoss and David R. Horvath 23

The Americans With Disabilities Act: Resources for Implementation Through Vocational Evaluation
Stephen Thomas, Cheryl Bowers, Dale Batten, and Bruce Reed 29

Selecting Vocational Evaluation Tools
Randall S. McDaniel and Michael C. McClanahan 39

Work Evaluation: Sociocultural Factors and Staff Training Implications
Marilyn Ekdahl Ravicz 45

Building Consensus: The Interdisciplinary Council on Vocational Evaluation and Assessment
Fran G. Smith and Dana Lee Schuster 51

The Role of Language and Culture in Vocational Assessment: Factors to Consider When Reviewing Assessment Tools
Norma L. Colyer and Fran G. Smith 57

Personnel Shortages in Vocational Evaluation
Shirley K. Stewart 65

Job Interviews Under the Americans With Disabilities Act
Barbara L. Kornblau 73

Facilitating Self-Determination: A Feminist Perspective on Vocational Evaluation
Linda Mathias Kaskel and Jill R. Oppenheim 79

ADA Compliance: To Screen or Not to Screen?
Melanie T. Ellexson 85

Standards for Best Practice in Vocational Assessment and Evaluation: An Opportunity for Interdisciplinary Input
Lynn Dowd, Geri Harrand, Dana Schuster, Richard H. Welles, and Juliet Fried 89

The Controversy Over the GATB
Donald A. Kates and Fong Chan 91

Rehabilitation Provider Malpractice
Marilyn T. Oakes 95

A Proposed Curriculum Model for Vocational Evaluation
Karen L. Pell and Darrell W. Taylor 101

Effective Consumer-Counselor Interactions in Vocational Rehabilitation: Empowerment Issues for Rehabilitation Consumers, Counselors, and Service Providers
Thomas Czerlinsky 107

A Comparison of Recertification Requirements
Christine E. DeGraw and Lee H. Stroud 113

The 1991 Revised DOT: What's New and Different and Its Impact on Traditional Evaluation Techniques
Jeffrey A. Truthan 123

Lost Losses/Found Opportunities
Sydney W. Keller 132

The Positive Impact of the Americans With Disabilities Act and the Worker's Compensation Insurance Crisis on Vocational Assessment/Adjustment Professionals
Melvin D. Cooksey 139

Interagency Collaboration Between Mental Health Providers and Vocational Rehabilitation Facilities to Reinforce Work Adjustment Treatment Success
Alicia J. Kupchik 143

APPLICATIONS AND PRACTICES

Using Behavioral Rating Scales as Part of Vocational Assessment
Maureen McKenna 147

Critical Vocational Behaviors: A Conceptual Model for Vocational Evaluators
Thomas Modahl 151

Technology Considerations During the Vocational Evaluation Process: Fitting the PC Computer to the User
Fran G. Smith and Paula Jackson McClain 153

Assessing Needs, Supports, and Environments in Vocational Evaluation
Richard Sabousky, Robert W. Flexer, and Doreen Shell 161

The Work Adjustment Job Coach Service
Elizabeth A. Davis and Carroll Sue Barron 167

Modifying the Evaluation Process to Determine Reasonable Accommodations
James F. Parhamovich 171

Vocational Expert Testimony
Richard Strauss 175

Documenting Functional Performance Criteria in Work Capacity Evaluations
Virgil R. May 179

Report Writing: Putting Our Profession on the Line, Not Between the Lines
Cameron Adams-Webber 191

Apples to Oranges: Comparing Work Hardening Outcomes
Lynne F. Murphy and Lynn R. Dowd 199

Project Independence: Relying on Assessment Techniques for Program Success
Ronald J. Spitznagel 205

Facilitating Self-Determination With Vocational Assessment in Multi-Cultural Settings
Robert L. Akridge and Roy C. Farley 211

Expanding the Vocational Evaluation Process Through Assistive Technology
Bruce J. Reed, Juliet H. Fried, and Roger L. Grimm 217

Establishing Vocational Direction Utilizing Fantasy With persons Who Are Severely Disabled
William J. Braunig 221

Transition of Persons With Cognitive Disabilities: Policy Implication of Analyses of the DOT
Jacques H. Robinson and Gary M. Cusick 225

SPECIAL POPULATIONS

Vocational Evaluation of the Older Worker With a Disability
Norman C. Hursh 235

Vocational Assessment of Individuals With Traumatic Brain Injury
Theresa Krankowski and Debra Culbertson 243

Diary Entries: The Vocational Challenges of a Woman With Disability
Karen L. Pell 251

Vocational Evaluation: Issues in Working With Clients Who Are Blind and Visually Impaired
Donna L. May 255

The Relationship Between Vocational Decision-Making and Employment Outcomes for Individuals With Traumatic Brain Injuries
Shirley K. Chandler 265

Technology Tryouts for the Print Disabled in Wyoming
Beth Buckles Deans 273

Vocational Evaluation Using Adaptive Equipment for People With Vision Impairments
Ya-Chin Yang 277

SCHOOL SETTINGS

Learning Style Assessment and Reasonable Accommodations for Students With Learning Disabilities
Mary B. Sylvester 281

The Voc-Ed Exploration Survey: The First Step in Transition Planning
Martha A. Ensley 285

Self-Determination: A Critical Element in Transition Planning
Roberta Ginavan and Theresa Hubbell Jozwiak 291

Pre-Vocational Training: An Adjustment Services Model for Special Education Students
J. Joseph Johnson III 301

RESEARCH

Vocational Assessment of Students With Disadvantages: Justification for an Abbreviated Assessment Model
Deborah Nolte and Donna Waechter 305

Follow-up--A Look at Long Term Results From School-Based Vocational Evaluation
Deborah A. Grosser, Thomas J. Schmitt, and Nancy L. Scott 311

Vocational Assessment of Persons With Severe and Profound Disabilities: What's Really Being Done?
Karen L. Shanahan 315

A Comparison of Counselors' and Clients' With Traumatic Brain Injury Perceptions of Client Vocational Strengths and Limitations
Kathleen Lillo Sowell 319

Results of the 1992 Multi-Cultural Task Force Survey
Wendy Nussbaum, Norman Colyer, and Alan Nelson 327

Analysis of a National Study on Vocational Assessment Procedures With Vocational Rehabilitation Clients
Becky J. Hayward and Stephen W. Thomas 333

Inclusive Community Building: A Research Framework for Rethinking Assessment and Planning
Michael Peterson 339

Preliminary Findings of a National Study of Vocational Evaluation Practitioners' Job Tasks and Functions
Darrell W. Taylor and James E. Bordieri 345

For those who may be using papers from this document as a reference, the correct form is noted below according to the *Publication Manual of the American Psychological Association:*

Nolte, D. (1991). VEWAA and vendors: Issues for examination. In R. Fry (Ed.), The Issues Papers. Fifth National Forum on Issues in Vocational Assessment (pp. 1-3). Menomonie, WI: University of Wisconsin-Stout, Materials Development Center.

Susan L. Urofsky, Commissioner
Virginia Department of Rehabilitative Services
Richmond, Virginia

I am delighted to be here. Welcome to the many familiar faces from Virginia and our many visitors. I hope you'll enjoy your stay.

When Joe asked me to speak, I was pleased but also intimidated. It's tough to talk to the experts. Especially experts who are addressing the critical issues of the day.

We're looking at the need to balance:

Professional experience and viewpoint with consumer activism and choice;

To open options for practitioner and consumer through applied technology that many of us did not grow up knowing about. My best solution to computer problems is sometimes to ask a kid;

To define stakeholders in ever widening circles;

To enable young people whether in school or in transition to optimize their potential;

To integrate across professional disciplines and to forge rehabilitation teams; and

To make ADA reality.

As we look at this increasingly complex environment we may all feel a little bit like Huck Finn as he stood by the river looking back at the town and finally deciding: "Civilization, I've been there before" as he got on the raft to laze down the river.

However, it was also Huck Finn's creator, Mark Twain, who said, "Nobody knows the trouble I've seen and most of it never happened." In short, we often create or at least contribute to our own dilemmas.

Sort of like the man who prayed continually to win the lottery. After praying and praying, he heard a voice say, "Jack, help me a little, buy a ticket."

If there is a point to that story, I guess it is that we can help ourselves. We can strengthen what is strong in what we do today. We can decide not to do certain things - at least not in the same way. Efficiency is doing the thing right, but effectiveness is doing the right thing (Peter Davidson). We can plan in partnership and coalitions for an even more dynamic and effective future.

I'm not talking about planning as research or compliance or even as enormously long term, because conditions change so rapidly. But more the kind of planning that leads to innovation by establishing a common vision - an understandable framework to work within.

This requires more than communication -- it requires collaboration.

BEST COPY AVAILABLE

Communication = understanding each other
Collaboration = the result is better because we each added value

It also requires us to be proactive rather than reactive. To often, but not totally, undeserved rehab professionals have been perceived to have "prescribed" answers. Professionals appear to think they know best what the client needs from a fairly narrowly drawn group of options. They use measures/values that required the client to adapt or be found deficient, "unfeasible".

Being proactive means to find a way. It may mean situational assessment rather than a paper/pencil test. It may mean an adaptation through assistive technology - high tech or low tech. It may mean reaching out to resources beyond the discipline, agency or even community. It certainly means to move beyond the medical model focused on professionals who cure, fix or prolong life. We are seeking to assess functional strengths and optimize human potential. We recognize this may well require interested teams with a client focus and with the client as an integral and full partner. There is great strength in an integrated and collaborative team. A team allows common individual to accomplish uncommon results.

I often use stories to make a point drawn from nature, fairy tales, sports, comics and the unusual theater. Today I'm into geese because there are lessons to be learned about networks and teams.

> "As each goose flaps its wings, it creates an "uplift" for the bird following. By flying in a "VII formation, the whole flock adds 71% more flying range than if each bird flew along. **Lesson:** People who share a common direction and sense of community can get where they are going quicker and easier because they are traveling on the thrust of one another.
>
> Whenever a goose falls out of formation, it suddenly feels the drag and the resistance of trying to fly along and quickly gets back into formation to take advantage of the lifting power of the birds immediately in front. **Lesson:** If we have as much sense as the goose, we will join in formations with those who are headed where we want to go.
>
> When the lead goose gets tired, it rotates back into the formation and another goose flies at the point position. **Lesson:** It pays to take turns doing the hard tasks and sharing leadership - with people, as with geese, we are interdependent with one another.
>
> The geese in formation honk from behind to encourage those up front to keep up their speed. **Lesson:** We need to make sure our honking from behind is encouraging-not something less helpful.
>
> When a goose gets sick or wounded or shot down, two geese drop out of formation and follow their fellow member down to help and provide protection. They stay with this member of the flock until he or she either is able to fly again or dies. Then they launch out on their own, with another formation, or to catch up with their own flock. **Lesson:** If we have as much sense as the geese, we'll stand by one another like they do." (Quoted from LDA-CA Newsletter, San Diego Chapter).

You may get the idea that I think there needs to be a great deal of passion and commitment to achieving a collaborative team, agency or system. It is not just instinctive as nature stories might have us believe.

How can we ensure that evaluation and assessment are used effectively for appropriate people? Do we need to build structural interdisciplinary teams or can we rely on an atmosphere that encourages ad hoc teams to form around service needs or individual clients?

How can we ensure that there will be full collaboration regarding client needs - not just consultation or an expression of "expert opinion". How can we conduct assessments in a way that implies potential rather than defines limits?

We could go on and on with those types of questions? And, it is important to ask questions. However, I am committed to the idea that anyone can spot wrong answers, but that it takes creativity to ask the right questions.

Why are we doing this? How will it help?

In our agency through a process we call Action Agenda, we are constantly challenging ourselves as to how we can be more effective as we work with clients, staff and the community. our vision is to carry out our mission in proactive, collaborative and client focused ways. We are asking ourselves at every level and part of the organization the same types of questions I just posed to you.

If we are proactive, collaborative and client focused, what would we be doing? What would we look like? How can we demonstrate performance? I'll briefly indicate a few potential answers:

1) A staff that is above all committed to quality services, qualified in disciplining by education and aptitude, and continually updating service delivery skills and disability based knowledge.

2) **Staff** development focused on collaborative skills such as negotiation, conflict resolution, communication and **creative problem solving.**

3) Commitment to client **focused (focused by the client)** , **creative and comprehensive case** management to **reduce systematic barriers and cost effective services.**

4) A continuum of service options that emphasizes self*sufficiency for people with disabilities through employment and community participation and transcends disability, age and gender labels.

5) Integration of assistive technology into every aspect of the rehabilitation process to enhance the clients feasibility of success and access to employment services and living options.

6) An environment that fosters collaboration among stakeholders, work units and disciplines and values the outstanding team made up of outstanding individuals above the outstanding individual.

7) Living and breathing inclusion of consumers, staff, stakeholders without limits, but particularly including employees and local governments to make things happen.

8) Support and encouragement of innovations and an entrepreneural spirit among clients and staff.

In closing, I'd like to share with you a very strong explanation of momemtum from Max Dupree, Leadership is an Art.

> "Momentum comes from a clear vision of what the corporation ought to be, from a well thought out strategy to achieve that vision and from carefully conceived and communicated directions and plans that enable everyone to participate and be publicly accountable in achieving those plans."

Thank you for your attention today. Enjoy the Conference and lets join together to continue our momemtum.

EVOLVING POLICY PARADIGMS AND LEGISLATIVE IMPLICATIONS FOR VOCATIONAL ASSESSMENT SERVICES

Pamela J. Leconte
with contributions from
Patricia L. Sitlington
Linda L. Hinton

ABSTRACT

This paper describes key points presented at the General Session entitled "**Legislative Issues--Disability Policy--Evolving Paradigms**" and incorporates remarks made by

- Dr. Patricia Sitlington about assessment and transition elements of the Individuals with Disabilities Education Act of 1990, P.L. 101-476,
- Linda Hinton regarding the 1992 Amendments to the Rehabilitation Act of 1973, P.L. 102-569, and
- Pam Leconte concerning assessment and transition assurances in the Carl D. Perkins Vocational and Applied Technology Education Act of 1990, P.L. 101-392.

The complete text of James E. Price's presentation on the Job Training Reform Amendments of 1992, P.L. 102-367, which amend the Job Training Partnership Act of 1982 is included at the end of this article.

These laws were selected for Forum discussion as they represent a trend toward more cohesive vocational assessment policy emerging from different human service and education sectors for individuals who face barriers to education, employment, and an acceptable quality of community living. Each law

a) reflects varying degrees of paradigm shifts regarding policy, philosophy, and attitudes toward individuals with disabilities and other special needs;
b) emphasizes and requires vocational assessment services as a basis for effective individualized educational, vocational, rehabilitation, or employability planning; and
c) is connected through cross-referencing in actual statutory language.

In order for vocational assessment and related personnel to effectively advocate and successfully implement programs for these individuals, it is important to gain an understanding of the content of these laws and their implications for practice.

[Note: The diverse origins of these laws: vocational education, special education, rehabilitation, and job training underscores the important role the Interdisciplinary Council on Vocational Evaluation and Assessment can play

- *in disseminating consistent messages about appropriate and effective assessment services, and*
- *by representing the commonalities, mutual purposes, and benefits of assessment among various disciplines.]*

INTRODUCTION

When globally viewing current education and employment legislation for persons with disabilities and disadvantages, shifting paradigms become evident--paradigms which are changing the direction of policies in the United States. All four laws discussed in the Sixth Issues Forum General Legislative Session reflect different stages of these shifting policy paradigms, which, in turn, carry implications for vocational assessment practices.

Several parallels can be drawn within these laws. The presence of common value-based premises is one indication of changing paradigms in the Individuals with Disabilities Education Act (IDEA), the Carl D. Perkins Vocational and Applied Technology Education Act (Perkins), the Rehabilitation Act as amended (Rehab Amendments), and the Job Training Reform Amendments (JTPA Amendments). Common premises include

a) **self-empowerment and self-determination**: consumer or individual-centered services, programming based upon consumer choices and preferences;
b) **civil rights**: equal access to services, planning and services designed to meet individualized needs;
c) **inclusion**: the inherent worth of all individuals and their ability to make societal contributions, all people should be and can be integrated and accommodated into community.

Among other legislative commonalities are the themes:

- an upgraded status of assessment as a prerequisite for any type of vocational or employment decision making and service planning;
- the need for collaboration to provide useful and accurate assessment information;
- the need for all individuals to participate in life (personal futures) planning, particularly those who face daunting barriers to employment and self-sufficiency;
- the mission to appreciate and gain benefit from diversity rather than discriminating against it; and
- the need for services to provide tangible outcomes (i.e., accountability).

Underlying the last theme is the assumption that outcomes will be positive; they should enhance career decision-making, vocational development, and employment satisfaction.

The notable emergence of these themes heralds "good news" for vocational assessment personnel who have consistently subscribed to these basic values (Leconte, 1992). For example, the Draft Position Paper of the Interdisciplinary Council on Vocational Evaluation and Assessment presented at this Forum contains some of the same themes in its guiding principles for vocational assessment services (Lombard, Neubert, Rothenbacher, Sitlington, Smith, & Leconte, 1993). For example, vocational evaluation and assessment require "a collaborative approach to data collection and decision-making" (Lombard, et al, 1993, p.2).

In the past these professionally-held values have had to compete with organizational (e.g., case closures, billable hours) demands for productivity, accountability, and efficiency. A general lack of adequate resources and conflict over how to use them has also contributed to the competition between values and organizational demands. Thus, the strength of values has often been diminished, and the impact on consumers has frequently been negative. Now that professionally-held values and the intent of legislation are more aligned, perhaps organizational demands will be forced to change and will produce outcomes which positively affect consumers.

EVIDENCE OF SHIFTING POLICY PARADIGMS

According to Dr. Susan Daniels, currently Associate Commissioner of the Administration on Developmental Disabilities of the U.S. Department of Health and Human Services, we are experiencing multiple paradigm shifts in American policy--particularly in disability policy.

Simply, paradigms are defined as comfortable ways of organizing reality to understand it; they equate our personal, unconscious perceptions of how our "world" operates. Thomas Kuhn, viewed as a leading authority on the conceptualization of paradigms, observed that they act as our filters on reality: "We never see the world directly, we always see it through these paradigm filters" (1970, p. 7).

Daniels concurs, "rather than seeing is believing, believing is seeing"--if we believe something, we tend to see it (1991). She indicates that we have believed, and have built services around the belief, that people with disabilities and disadvantages need to be helped and we professionals know what is best for them. This premise for rehabilitation (and special education, compensatory employment training, etc.) is based on the negative notion that "something is wrong with such people". Thus, we have set up public services to help "make them right".

Daniels (1990, 1991) proposes that we are moving from this ***"individual defect"*** paradigm concerning individuals with disabilities, into two new spheres of thinking or "mind sets": an ***"individual rights"*** paradigm and a ***"community-ecology"*** paradigm (Daniels, 1990, p.2).

Each of Daniels' disability paradigms is explained briefly in this section, and evidence of their shifting is identified within the Perkins Act, IDEA, the Rehab Act, JTPA Amendments, and the ADA.

Individual Defect Paradigm

Daniels (1990; 1991) points to recent radical changes in rehabilitation (such as, passage of the ADA; more prevalent leadership by people with disabilities), which equate moving away from the early and long-lasting medical model. Under this model, we "treat" people so they can better "fit" into the world around them. She posits that rehabilitation legislation over the decades has been based on the individual defect paradigm where a person came into services "broken" and it was incumbent upon professionals to "make them better". It is assumed under this mind set that professionals "know best" and therefore have some type of control or power over the individuals who need or want to become employed.

Examples of legislation that embody the individual defect paradigm include the Rehabilitation Act of 1973 and subsequent amendments, the Education of the Handicapped Act of 1975 and amendments, vocational education and the JTPA. Any statute that requires "treatment plans" could fit into the "fix them" category (Daniels, 1991). Thus, Individualized Written Rehabilitation Planning (IWRP), Individualized Education Planning (IEP), as well as employment plans (JTPA), vocational education plans (Perkins), and transition plans represent this structure for service delivery.

Unfortunately, this paradigm has influenced, and even required, vocational evaluators to serve as gatekeepers to rehabilitation services instead of acting as service facilitators and advocates. Evaluators or counselors often have been placed in the position of verifying one's disabilities and their implications for employment success as determinations of eligibility for services. In other words, does he or she have the potential to be rehabilitated and employed? This focus on disability carried a negative connotation and discriminated or "screened out" many people who could have been productive and employed with accommodations.

The use of disability labels in special education are often deemed a necessary evil in order to delineate the unique educational needs of students, to protect their rights to free and appropriate public education in the least restrictive environments, to direct funding to those who need special services, and to facilitate monitoring and evaluation (determining if funding and services actually reach students and make a difference in their learning). However, by using labels, we are singling out individuals with differences and basing their educational programs on the nature of their "deficits" --again, a negative premise. Thus, by screening people into special services, we are automatically screening them out of programs in which everyone else participates.

Similarly, the fact that students in vocational education must meet certain criteria to receive supplemental services which will assist their success, exemplifies the negative, "defect" framework for service provision. When viewed in ideal terms, the elimination of special "set-aside" funds (separate pots of money which provided monies to support supplemental services needed above and beyond what "regular" students required for success) moves the Perkins Act farther away from the defective paradigm as the goal is inclusion into all programs. When analyzed realistically, however, we see evidence that assessment and supplemental services are being reduced or eliminated. This could be due in part to confusion about how to actually implement the new paradigms which were intended by policymakers in Congress.

Recent rehabilitation legislation and other laws, which address the employment needs of individuals underrepresented in the labor force, are showing signs of different paradigms. The required inclusion of consumers and students in IWRP and IEP meetings in the Rehab Amendments and IDEA reflects a shift in mind sets--from individual defect (services based on deficits) to individual rights (empowerment and services based upon abilities and positive attributes).

Individual Rights Paradigm

This paradigm represents the basic democratic principle of civil rights and is gaining momentum within policy circles. For example, since 1964, when the Civil Rights Act was passed, we now have the Americans with Disabilities Act (ADA) of 1990. The ADA extended the principles of equal rights and equal access of individuals with disabilities from government-funded services and agencies (mandated in Section 504 of the Rehabilitation Act of 1973) to all services in the public and private community.

Within less than 30 years we have witnessed a cycle of changed paradigms among policymakers. Increasingly, we see that discrimination of people who are "different" is no longer being tolerated or ignored, now it is outlawed. And, as we utilize new information and technology, "differences" are of less consequence. Policymakers respond to pressure from their constituents, which implies that the individual rights paradigm gradually is pervading American society.

In addition to the ADA, the Perkins Act and IDEA reflect the strengthening influence of the individual rights paradigm. For instance, one of the primary purposes of the Perkins act is to provide equal access and participation of underrepresented groups (people with disabilities, educationally disadvantaged, limited-English proficient, dislocated workers, displaced homemakers, incarcerated, etc.) in vocational education, and ultimately, in the work force.

Assurances of equal access under the Perkins Act are referenced in Section 612 (5) (B) (P.L. 101-392, 1990):

a) provision of understandable information about vocational education options and services to students and parents;
b) equal access to the full range of vocational and applied technology education programs and services at both secondary and postsecondary levels;
c) provision of vocational education programs in the least restrictive environment;
d) inclusion of vocational education in the IEP;
e) coordinated planning for persons with disabilities among special education, vocational education, and vocational rehabilitation;
f) assistance for students to enter vocational education programs and to fulfill the transitional service requirements of IDEA; and
g) creation of procedures and an appeal process by which parents, students, teachers can directly participated in state and local decisions as well as provision of technical assistance to help them participate.

Some examples of the shift to "individual rights" thinking in IDEA are reflected *beyond* the basic rights of free appropriate public education in the least restrictive environment; these were originally legislated in the Education for All Handicapped Children Act, P.L. 94-142 and are incorporated into IDEA. The definition of transition services provides one example:

> A coordinated set of activities for a student, designed within an outcome-oriented process, which promotes movement from school to post-school activities, including post-secondary education, vocational training, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation. The coordinated set of activities shall be based upon the individual student's needs, taking into account the student's preferences and interests, and shall include instruction, community experiences, the development of employment and other post-school adult living objectives, and, when appropriate, acquisition of daily living skills and functional vocational evaluation (IDEA, Section 602(a) [20 U.S.C. 1401(a)].

That "the coordinated set of activities ***shall*** be based upon the ***individual student's needs, taking into account the student's preferences and interests***" illustrates a shift from "professionals knowing what is best for students" and the "defect" model to the individual rights paradigm. Use of the word "shall" in legislation means "must" in implementation of the law. The emphasis on individual rights illustrates the gradual shift also to self-discovery (How does one self-discover? Through exploration and assessment.), self-advocacy, and self-determination.

Much of the equal access and "individual rights" language on these laws leads service providers closer to the community-ecology or full inclusion paradigm.

Community-Ecology Paradigm

Daniels (1991) depicts this paradigm as viewing people from the perspective that everyone must rely on resources to participate in life activities. In that we all need such resources as water, land, utilities, health care, and government, individuals who have disabilities or disadvantages, simply need a different allocation of resources. Daniels persuasively argues that we have misallocated resources for people with disabilities. Therefore, resolutions of inequities do not lie in changing individuals, but in providing access to needed resources. For instance, "ADA rejects deafness as the problem; access to telephone relay services is the issue" (Daniels, 1990, p.3). This line of thinking is compatible with a growing movement in all aspects of life to rely on communities and reallocating community (person-to-person) resources to assist individuals in need rather than looking to local, state, or federal governments for support (Denham, 1992; Gardner, 1991; McKnight, 1989; Raspberry, 1992).

Legislation reflecting this paradigm, though not as well known as the ADA and IDEA, is the Technology-Related Assistance Act (Tech Act) of 1988, P.L. 100-407. The Tech Act provides information about and access to assistive technology for individuals with disabilities of all ages. The assistive technology can encompass a costly computer set-up or be as simple as rearranging some office furniture or revising work schedules--in other words, altering the environment, circumstance or situation enough to accommodate an individual who needs slightly different resources. (As in the example of curb cuts in sidewalks, these accommodations often benefit more than just the individual with a physical disability--people pushing babies in strollers, workers pushing carts are assisted.

Although the application of technology for such assistance has not and may never reach all the people who need it, the law represents a step in the right direction--it helps reallocate resources and exemplifies the inclusion premise. Notably, assessment is implied in the Tech Act as in order to identify the best assistive technology for a person in given situations, it is necessary to assess the environments as well as the individual's level of functioning so that a compatible, optimal match can be made between technology and improved functioning.

The fact that IDEA includes requirements for assessment and provision of assistive technology reinforces the notion that even educational environments and situations must be altered to afford students with disabilities maximum opportunity to demonstrate their full abilities and potential. With this provision we move closer to an appropriate education for all students.

IMPLICATIONS OF EVOLVING POLICY PARADIGMS FOR VOCATIONAL ASSESSMENT AND TRANSITIONAL SERVICES

The impact these paradigms have had on vocational assessment is examined next by interpreting actual statutory and regulatory language. The purpose of federal rules and regulations is to clarify and provide guidelines for implementing the legislation, or statute.

Vocational Education

The assessment assurance contained in the Perkins Act reinforces the goal of equal access, but by the very nature of vocational assessment, self-discovery, self-empowerment, and self-determination become goals as well. Assessment in the 1990 Act is not as clearly defined as it was in The Carl D. Perkins Vocational Education Act of 1984 (P.L. 98-524). In 1984, the law read

> Each [special needs] student who enrolls in vocational education programs...shall receive assessment of the interests, abilities, special needs of such student with respect to completing successfully the vocational education program (Perkins, Sec. 204 (C), P.L. 98-524).

New language under the 1990 Act reads more vaguely, partially as a result of compromises between the House and Senate bills:

> . Assess the special needs of students participating in programs under Title II [basic state grants for vocational education] with respect to their successful completion of the vocational education program in the most integrated setting possible (Perkins, Sec. 118, (c)(2), P.L. 101-392.

The new statute is less prescriptive that the first, providing minimal guidelines for how assessment should occur, when it should happen, and where, or who is responsible for conducting it (Leconte & Boyer-Stephens, 1992). These specifics are left up to the local education agency to interpret and decide. Herein, lies an implementation problem, in that locals can vary slightly or greatly in their interpretation of how to meet "letters of the law".

When the proposed rules and regulations for Perkins were published, the Vocational Evaluation and Work Adjustment Association (VEWAA), some VEWAA members, and the National Association of Vocational Assessment in Education (NAVAE), along with members of the Division on Career Development (DCD), the National Association of Vocational Education Special Needs Personnel (NAVESNP), and other groups wrote to the U.S. Department of Education encouraging use of the 1984 statutory language in the Rules and Regulations for the vocational assessment assurance. Since there is no evidence that the Department took this action, interpretation is open. There are indications that some school systems are attempting to meet "the letter of the law" by screening or using a minimal Level I vocational assessment for large numbers of students (often without the essential components of adequate preparation of students and interpretation of results). At the same time, these educators are undermining the spirit of the law (Jennings, 1991) by eliminating other vocational assessment options for those who have the greatest needs: Levels II and III vocational assessment for those who face the most challenging barriers (E. Bicanich, personal communication, September 1992; Kochhar & Leconte, 1991; C. Rothenbacher, personal communication July 1992; C. Nord, personal communication, November 1992).

Because policy can be made through official communications (written correspondence) from the U.S. Department of Education staff, it is imperative that a local school district or a state education agency write for clarification. If the field continues to educate policymakers about the critical need for all three levels of assessment which are based upon the individual's needs, abilities, and interests, perhaps we can protect the interests and vocational futures of students with special needs.

Incorporated into vocational education is the mandate from IDEA for transition services. The addition of this component as a required service facilitates the shifting from "defect" to "rights" and ecological paradigms within special education.

Special Education

In summarizing key elements of the Individuals with Disabilities Education Act, Patricia Sitlington focused on federal rulemaking (interpretation and guidelines for implementation) of the statute, specifically regarding

a) the transition services definition,
b) the individualized education program (IEP), contents of the IEP, and participants in the IEP meetings.

The transition services definition was discussed earlier and it strongly implies that services will be based upon assessment information (e.g., preferences and interests). Although the definition states that "functional vocational evaluation" should occur "when appropriate", some experts interpret this to mean that various levels of assessment may be needed for different individuals, but some assessment is appropriate for every student.

IEP Participation

Further evidence of the increasing emphasis on individual rights is illustrated in the following requirements for IEP participation:

> - "If a purpose of the meeting is the consideration of transition services for a student, the public agency **shall** invite: the student and a representative of any other agency that is likely to be responsible for providing or paying for transition services;
> - If the student does not attend, the public agency shall take other steps to ensure that the student's preferences and interests are considered;
> - If an agency invited to send a representative to a meeting does not do so, the public agency shall take other steps to obtain the participation of the other agency in the planning of any transition services" (September 29, 1992, p. 44814).

The last requirement helps to ensure that a "hand- off" will be made between school and post-school programs and activities.

Content of the IEP

Protection of rights is addressed in this section by allowing for equal access to all educational options (even those which may not be currently available). Individual rights are also clarified by the statement:

> "If the IEP team determines that services are not needed in one or more of the areas listed below, the IEP must include a statement to that effect and the basis upon which the determination was made
>
> ▸instruction
> ▸community experiences
> ▸development of employment and other post-school adult living objectives" (Federal Register, September 29, 1992, p. 44815).

Further safeguards are provided by the following:

> "It is generally expected that the statement of needed transition service will include the areas of
>
> ▸instruction
> ▸community experiences
> ▸development of employment and other post-school adult living objectives" (Federal Register, September 29, 1992, p. 44815).

The last statement provides some (though general) direction for assessment of transition needs--these could be viewed as general domains of assessment. Another assessment reference is contained in the rule that

> "If the IEP team decides that services are not needed at the current time, the IEP team must reconsider its determination at least annually. Congress expects consideration to be give to the need for transition services for some students by age 14 or younger" (Federal Register, September 29, 1992, p. 44815).

Elsewhere the law states that all students needing transition planning should receive it by age 16--at the latest. In these statements, implications for assessment include the need for early assessment, for on-going assessment, and for ensuring that transition services may need to change periodically.

Agency Responsibilities

To protect the "hand-off" and ensure that, indeed, a transition is initiated, the rules and regulations explain

> "If a participating agency fails to provide agreed-upon transition services contained in the IEP, the public agency responsible for the student's education shall, as soon as possible, initiate a meeting for the purpose of identifying alternative strategies to meet the transition objectives, and if necessary, revising the student's IEP" (Federal Register, September 29, 1992, p 44815).

Perhaps the most controversial transition requirement, some states are interpreting it broadly (in keeping with the spirit of the law) by agreeing that a student's IEP committee may reconvene even if the student has graduated or reached the maximum age for special education services--in order to identify an alternative adult service agency and to revise the transition objectives.

An example might involve a student who was determined eligible for state-provided vocational rehabilitation services, but due to a funding shortage, she is placed on a waiting list for services. Rather than allow her to wait for an extensive period of time, the vocational rehabilitation representative can meet with others on the IEP team to ensure that the student connects with services from a different agency. Other state educational agencies and adult service providers are being more cautious in their interpretations. Many are fearful that they could be trapped into providing services to many people who have been out of school for a long time.

To avoid turf battles (or, viewed from a different perspective, to highlight such battles) over who will pay for services, the Federal Register includes

> "Nothing in this part relieves any participating agency of the responsibility to provide or pay for any transition service that the agency would otherwise provide to students with disabilities who meet the eligibility criteria for that agency" (September 29, 1992, p. 44815).

This provision could also be controversial, but the hope is that by building collaboration into transition planning early, all parties (school systems and various adult service agencies) will attempt to "work things out" to everyone's satisfaction. The alternative could involve legal actions--and unnecessary delay for the student to pursue his goals.

Vocational Rehabilitation

During Linda Hinton's briefing on the Rehabilitation Act Amendments of 1992 at the Forum, it became apparent that the new paradigms epitomized by the ADA (i.e., individual rights and community-ecology) had gained a foothold in renewed rehabilitation policy. Evidence of the shifts is exemplified by some of the value-based assumptions on which the revised law rests: consumer empowerment, self-determination, equal access, individual choice, acceptable quality of life, and full inclusion and integration in community.

For instance, individual "choice" is emphasized in Section 105 of the amendments mandating that the Secretary of Education write and implement regulations that "enable individuals with disabilities to select rehabilitation services and service providers directly, consistent with" their Individualized Written Rehabilitation Plans (IWRP) (Button, 1992, p. 10). This provision empowers the individual to secure services of their preference as long as they are included in the IWRP. Additional choice requirements and examples of the new paradigms include

- joint development, agreement, and signatures of the IWRP (which many professionals have been doing for years) by the person with a disability and the rehabilitation counselor;
- employment objectives in the IWRP which must be based on the individual's unique strengths, priorities (implying preferences), abilities and capabilities;
- inclusion in IWRPs of statements (in the individual's own words) of how he or she was "informed about and involved in choosing among alternative, goals, objectives, services, entities providing services, and methods used to provide or procure" these services (Button, 1992, p. 9);
- IWRP planning and the document which must be provided in the individual's primary language or mode of communication; and
- that the IWRP must be given to the consumer.

Inclusion and emphasis on "extended services" and "on-going support services" hold important implications for vocational assessment. In order to determine the need for such services and to monitor the status of progress during them, it will be essential for vocational assessment to occur. In fact, the law states that services must occur at least twice a month to "make an assessment of the work situation, and based on that assessment to provide for coordination or provision of specific intensive services at or away from the worksite needed to maintain employment stability" (Button, 1992, p.. 8).

Experienced and trained vocational evaluators could provide valuable training of supported employment personnel to ensure that such assessment is appropriate and effective. Or, evaluators could "move beyond the walls" of evaluation programs into actual work situations which is where they started assessment several decades ago.

The mission to identify transition needs and on-going support services, including appropriate natural supports, refocuses the assessment process.

Refocusing requires that vocational evaluators pay closer attention than ever to the various environments, situations, and circumstances within which an individual operates or strives to participate. It is critical to address all three dimensions of vocational assessment: the individual and his or her attributes, their ecology (e.g., environments), and the compatibility or discrepancies between their attributes and ecology.

Among the transition needs and supports to assess are those included in the definition of on-going services within the reauthorized Rehab Act: "transportation, communication, personal assistance services, rehabilitation technology, job redesign, environmental adaptations, social skills, and training, counseling, or other emotional support, and family support" (Senate Report, 102-357, p.24). The diversity of assessment targets strongly supports the need for collaborative assessment which is conducted by a variety of professionals, the consumer, family members, employers, coworkers, and others. It would be beneficial for a trained vocational evaluator to coordinate collaborative data gathering and decisionmaking.

Another major change in the new amendments which will transform vocational assessment services, at least the outcomes, regards the new eligibility process. Again, the new process is closely aligned with the equal access mandate provided by the ADA. The new "access"--eligibility--process also depends upon a variety of data gatherers and providers of input, not the least of which is the consumer. By utilizing existing data and seeking input from school records, social security agencies, a consumer's personal physician, current or previous employers, an advocate, or a referring agency, or others, time can be saved and duplication of services can be avoided. Individuals who have transition plans (based upon assessment) from school systems should have up-to-date assessment information which has included the transition and rehabilitation needs of students entering the postsecondary world.

The nature of this rehabilitation assessment now relies on "presumptive eligibility", meaning if an individual has a disability it is assumed that he or she is employable. Thus, the focus of vocational assessment is two-fold. First, assessment should determine--from existing data--that the individual has a disability, then because he or she is assumed employable, assessment then will identify his or her rehabilitation needs. This process differs vastly from the previous mandated goal of vocational assessment, which entailed "evaluating rehabilitation potential".

To underscore the point that assessment should not delay rehabilitation and that it should occur in natural environments to the greatest extent possible (the individual's current and potential ecologies), the new amendments encourage "preliminary assessment which may include the provision of rehabilitation goods and services" (such as supported employment, personal assistance, and rehabilitation technology) (Button, 1992, p. 5). In other words, because individuals are presumed eligible they may begin to receive services immediately during which time their rehabilitation needs can be appraised. This will be particularly helpful when existing data is insufficient, not current or not reliable; rather than waiting for eligibility to be assessed, the rehabilitation process can be initiated as eligibility and needs are being determined.

The Senate Conference Report makes it clear that assessment should not be duplicative, "unnecessary", or "irrelevant". In limited instances when "preliminary assessment" methods can not provide enough information regarding needed services and supports, a comprehensive assessment can take place. "However, the statute now limits the extent of any comprehensive assessment specifically to information that is necessary to develop a program of services" (Button, 1992, p. 5). Thus, one could surmise that more assessment will occur in work and other natural environments than in vocational evaluation units or counselors' offices.

This is not necessarily negative, in fact, it supports the inclination and desire of many vocational evaluators to provide more observation, situational assessment, and on-the-job evaluations within real work settings. In the past, these inclinations and desires have been opposed by the bureaucratic rigidity of "systems" and narrow interpretations of the law. Now, evaluators and other assessment personnel have "permission" to do what they know is right--and most meaningful to consumers. Finally policy is reinforcing good and equitable practices, instead of undermining them.

KNOWING THIS, NOW WHAT?

The legislative session at the Forum skimmed the surface of policy analysis and interpretation within the context of Susan Daniels' shifting disability policy paradigms. Some license was taken in applying her individual defect, individual rights, and community-ecology paradigms to current legislation pertaining to the future meaningful and satisfying employment of underrepresented groups.

Though an attempt was made to target the relevance of these paradigms and laws to vocational assessment, and to some degree, transition services, the discussion is limited, at best. Perhaps, ***the Interdisciplinary Council on Vocational Evaluation and Assessment can delve into this and related policy issues further.*** It is hoped that this paper will ***generate additional discussion among consumer and professional groups and stimulate more progress in completing the policy shifts from negative to positive premises and outcomes.*** It is imperative that as policies move forward, so, too, should our collaboration with members of special needs groups and other service providers. We are on our way, but must ***continue to aggressively educate professionals and the general public so that the disability policy revolution will be complete and will eventually change mind sets and attitudes, and thus, behaviors and practices permanently.***

The Americans with Disabilities Act trumpets the beginning of a new policymaking era, one in which differences are viewed as gifts and enrichments to everyday life. Already the ADA has had a significant effect on the recent rehabilitation reauthorization, Christopher Button of United Cerebral Palsy notes,

> "The law now recognizes that disability is a 'natural part of the human experience' and 'in no way diminishes the right' of individuals to live independently, enjoy self-determination, make choices, contribute to society, pursue meaningful careers, and enjoy full inclusion and integration in the economic, political, social, cultural, and educational mainstream of American society" (1992, p. 3).

Most professionals engaged in vocational assessment (and transition) services believe in the positive policy paradigms, but ***it is incumbent upon us to guarantee on a person-to-person basis that self-empowerment, advocacy, and determination, civil rights, and full inclusion are achieved, regardless of any gatekeeping functions we are directed to perform within our organizations.*** It may be difficult, even unpopular, but change begins with one person--and power to achieve change builds as others join the venture. Vocational assessment personnel are in a strategic position to advocate and facilitate such changes.

[Note: Other legislation, which was not addressed during the session, also includes some of these underlying premises, particularly the democratic notions of individual choice and the duality of equal participation, (i.e., community integration and responsibility). One example is Title II of the Job Opportunities and Basic Skill Training Program (JOBS), part of the Family Support Act of 1989, P.L. 100-485. Consistent with the aforementioned laws, JOBS generates planning and service provision from assessment outcomes which are relevant to employment preparation and participation. It is important for service providers to become knowledgeable of all assessment mandates to ensure that people in need have every possible opportunity for and benefit of assessment-based planning and services.]

REFERENCES

Button, C. (1992, October/November). Washington reports. P.L. 102-569: A new season for the Rehabilitation Act. Word from Washington, 3-12. Washington, DC: United Cerebral Palsy.

Carl D. Perkins Vocational and Applied Technology Education Act of 1990, P.L. 101-392, U.S.C. Sections 2301 et seq.

Daniels, S. (1990). Disability in America: An evolving concept, A new paradigm. Policy Network Newsletter, 3(1). Washington, DC: The George Washington University, Department of Teacher Preparation and Special Education.

Daniels, S. (1991). Changing paradigms in disability policy. Presentation for Legal Issues and Policy Concerns in Supportive Training, Transition, and Education Programs, The George Washington University.

Denham, D. (1992, April). Community building. Rehab Resources, III (3), College Park, MD: Center of Rehabilitation and Manpower Services, University of Maryland.

Family Support Act of 1989, P.L. 100-485. U.S. House of Representatives, 100th Congress.

Federal Register, 57 (189), September 29, 1992, 34 CFR Parts 300 and 301, Assistance to States for the Education of Children with Disabilities Program and Preschool Grants for Children with Disabilities; Final Rule. Washington, DC: Department of Education.

Federal Register, 57 (208), October 27, 1992, 34 CFR Parts 300 and 301, Assistance to States for the Education of Children with Disabilities Program and Preschool Grants for Children with Disabilities; Correction, Final Rule. Washington, DC: Department of Education.

Gardner, J.W. (1991). Building Community. Washington, DC: Independent Sector.

Individuals with Disabilities Education Act of 1990, P.L. 101-476, 20 U.S.C. Sections 1400 et seq.

Jennings, J.F. (1991). Congressional intent: The House's legal expert on vocational education explains what Congress wants the Perkins Act to do. Vocational Education Journal, 66(2), 18-19.

Kochhar, C., & Leconte, P. (1991). The one-minute questionnaire on the future of vocational education for special needs students. Washington, DC: The George Washington University, Department of Teacher Preparation and Special Education.

Kuhn, T.S. (1970). Second Edition. The structure of scientific revolution. Chicago, IL: University of Chicago Press.

Leconte, P.J. (1992). Shifting and conflicting paradigms shaping vocational appraisal. Unpublished paper. Washington, DC: The George Washington University, Department of Teacher Preparation and Special Education.

Leconte, P.J., & Boyer-Stephens, A. (1992). Student assessment and support assurances: The heart of the Perkins sequel. The Journal for Vocational Special Needs Education, 14(2 & 3), 54-61.

Lombard, R., Neubert, D., Rothenbacher, C., Sitlington, P., Smith, F., and Leconte, P. (1993, March). The Interdisciplinary Council on Vocational Evaluation and Assessment: Draft Position Paper. Presented at The Sixth National Forum on Issues in Vocational Assessment in Virginia Beach, VA.

McKnight, J. (1989, January/February). Why 'servanthood' is bad. The Other Side, 38-41.

Neubert, D.A. (1992). Recent legislative mandates: Implications for vocational assessment and transition services. Paper presented at the American Vocational Association Conference, St. Louis, MO.

Raspberry, W. (1992, February 6). Reclaiming community. The Washington Post.

Rehabilitation Act Amendments of 1992, P.L. 102-569, U.S. Senate Report, 102-357.

••••••••••••••••••••••••••••••

Following is the text of James E. Price's presentation at the Legislative General Session. Though his background is not in assessment, his perceptions and the issues he raises are important for assessment personnel to address. His paper represents a valuable contribution to our field and to the forward movement of professionalizing vocational assessment and evaluation across disciplines.

JTPA: ASSESSMENT AND ITS EVOLVING ROLE

JAMES E. PRICE
EXECUTIVE DIRECTOR
GOVERNOR'S EMPLOYMENT AND TRAINING DEPARTMENT

Assessment is not new to job training programs. Practically all of the traditional manpower programs required some kind of assessment. For instance, in the Federal Register, dated Tuesday, May 20, 1980, Section 675.6 of the CETA regulations required that "each recipient shall, at the time of intake, assess every individual to determine eligibility and to decide whether CETA can offer the applicant those services or activities which will enable the applicant to obtain unsubsidized employment and increased earned income"(Federal Register, Volume 45, 33861). This required assessment was the basis for the development of an employability development plan, and became part of the Job Training Partnership Act of 1983. But the need to enhance how participants would be assessed began to change in 1986 when the Congress of the United States mandated that youth programs funded under Title II-B Job Training Partnership Act include a basic skills remediation component. However, instruments and strategies had not been developed to carry out the mandate; therefore, the JTPA system relied heavily on the assessment instruments and strategies developed by the traditional education system. Fortunately, during the same year, the Center for Remediation Design (CRD) initiated a demonstration, in cooperation with the Comprehensive Adult Student Assessment System (CASAS), to develop an assessment strategy for the JTPA system that would utilized criterion-referenced tests to define and identify at-risk people on the basis of skill deficiencies specifically related to the workplan and consequently, pinpoint the specific job-related remediation needs of every person undergoing the assessment (Strumpf, ii).

As a result of the demonstration project, the following recommendations were offered:

1. Employability should be defined in terms of basic education skills and work maturity deficiency levels, rather than just on the acquisition of the high school diploma.
2. Any revisions to eligibility criteria for JTPA, while maintaining the current focus on the economically disadvantaged, should target on the basis of deficiencies in workskills and functional basic academic skills.
3. Policy should direct the use of criterion-referenced (or competency-based) strategies to assess for basic skill deficiencies.
4. JTPA youth employment competency system should be required to provide a combination of training programs to ensure that the concept of "employment competent: includes at least a locally acceptable snapshot of employment-related basic skills.
5. These strategies should be considered in the development of assessment strategies under the Economic Dislocation and Worker Adjustment Assistance Act, the Family Support Act of 1988, and the Carl Perkins Vocational Act (Strumpf, iii).

Several states have adopted these recommendations for their JTPA program, and the Employability Competency System that was developed for assessing individual participant mastery of such skills. However, other states, such as Virginia, have not moved beyond the PIC approved competencies established by the Department of Labor. Some of the job specific competencies have been borrowed from vocational education.

Over the years, assessment, through an evolutionary process, has become an essential part of JTPA program operations, which demonstrates the maturity of the JTPA system. Further evidence of the maturity can be seen in the Final Rule of the 1992 JTPA Regulations. The Final Rule requires an objective assessment. According to Vol. 57 of the December 29, 1992 Federal Register, "assessment is to be participant centered, diagnostic approach to evaluation of the needs of participants without regard to services or training programs already available in the SDA. It is an independent, comprehensive evaluation of an individual designed to identify information vital to the design of a service strategy culminating in gainful employment. The objective assessment is an ongoing process and should not be viewed as a one-time event. it is to be a multi-faceted approach which includes a full array of options including items such as structured interviews, paper and pencil tests, performance tests, behavioral observations, interest inventories, career guidance, instruments, aptitude tests, and basic skills test. From these options, and others, assessment staff will select the most appropriate tools for each participant to measure skills, abilities, aptitudes and interest, and to counsel participants on how their assessment results related to local labor market demands. The objective assessment process is to be sensitive to the testing and evaluation environment and the comfort and confidence level of the participant"(Federal Register Vol.57, 62021). The comparison of this type of assessment with assessment requirements in CETA and currently in JTPA is a significant change.

The SDAs in Virginia have been slowly enhancing their assessment process, but most SDAs still need the assistance of agencies which are more experienced in assessment. The diversity of participants' needs just will not allow SDAs to have the necessary expertise to assess some participants. Recently, the Governor's Employment and Training Department (GETD) completed a survey of SDAs in Virginia to determine their current status in assessing youth and adults, and these were the results.

1. SDAs vary in their sophistication in the assessment of participants.
2. Assessment is not just used to determine eligibility, but also to determine where the participant might be referred.
3. Assessment is being used mainly for educational and occupational purposes.
4. A combination of tests and other methods is being used to assess participants.
5. The following represent some of the tests and other methods being used to assess participants: TABE(Test of Adult Basic Education), WRAT(Wide Range Achievement Test), Self-Esteem Appraisals, Interviews, VITAS, Apticom, Learning Style Inventory, CASAS(Comprehensive Adult Student Assessment System), Micro-Tower, CTBS(Comprehensive Test of Basic Skills), SEI(Self-Exploration Survey), Match(COPS, CAPS, COPES), Virginia View, ETS Test of Applied Literacy Skills, PIES(Picture Interest Exploration Survey), Other Agencies.

Undoubtedly, the SDAs have made progress in their approach to assessment, but some still need to make improvements and develop a more systematic approach to assessment.

For most practioners, assessment is synonymous with paper and pencil, and norm referenced assessment tests. In the survey of SDAs traditional tests, such as the TABE, WRAT, ABLE, and California Achievement Test, were still being used. However, just as assessment is changing in other systems, the users in the JTPA system are supplementing the traditional test with performance-based assessment, which is the direct observation and review of the application of skills.

Through the use of portfolios of student work, demonstrations, group projects and other types of activities, performance-based assessment looks directly at how individuals use their knowledge and skills in realistic situations rather than measuring skills indirectly through some form of multiple choice, paper and pencil test (Curnan, 9). Performance-based assessment emphasizes the following:

1. What a person can do
2. Higher order thinking skills
3. The learner being at the center of the assessment process
4. The potential to be more accurate than norm-referenced tests (Curan, 9)
5. Collaboration with peers and supervisors

While performance-based assessment offers a number of advantages, it should not be seen as the total solution to the assessment of an individual. It is simply one of many tools that should be considered in assessing an individual(Curan, 10). However, based on the objective e assessment requirements in the 1992 JTPA Reform Amendments and Regulations, performance-based assessment seems to fit very well.

What is the future of assessment in the JTPA program? To answer this question, there is a need to serious look at the recommendations of the Secretary's Commission on Achieving Necessary Skills, better know as SCANS.

The Final SCANS Report on Learning A Living: A Blueprint for High Performance includes the following question: what does an assessment system need to be effective? The answer to the question indicates that any system that meets the following criteria is well on its way:

1. It defines and communicates what is to be learned - that is, the outcomes that are expected to show up in the knowledge and skills of the learner. These outcomes become, in effect, standards for all. A useful assessment not merely indicates success or failure in meeting the standards but identifies the degree of progress made in meeting them.
2. It assures that students are being taught what the system calls for, and that teachers are significantly involved in determining education standards, outcomes, and goals.
3. It permits comparison of performance.
4. It protects learners against sorting and labeling by moving away from distinguishing between "good" and "bad" to measuring performance

against standards of what the learner should know and be able to do.

5. It is dynamic, meaning it can be improved on the basis of experience and of advances in knowledge.
6. It motivates the learner who believes that assessment will count in the world beyond high school because they see that employers make decisions based upon assessment.

According to the Report, moving from the six criteria above to a fair and equitable system of standard setting and assessment requires going beyond simply creating new forms of tests. It also involves developing varied instructional opportunities and providing appropriate resources for students with special needs. The problem is to design a system that establishes the learner's rights to an education up to a recognized, absolute standard of performance without putting the burden of failure on the backs of the learner(SCANS, 73).

To achieve the aforementioned criteria, the Department of Education and the Department of Labor have contracted with the Council of Chief State School Officers (CCSSO) and the American College Testing (ACT) program. The purpose of this contract is to develop the assessment framework and assessment measures for a planned national assessment of the competencies identified as critical for success in high performance workplaces.

Ladies and gentlemen, JTPA will become a part of these future assessment efforts, because the program must produce competent individuals to compete in a global economy.

I would like to end my remarks by simply saying that assessment, as it relates to JTPA, has come a long way, and with the emphasis on a skilled work force, it will play an even greater role in JTPA in the future.

Thank you.

REFERENCES

Curnan, Susan "Youth Programs" Center for Human Resources, The Heller School, Brandeis University, Waltham, Massachusetts, Summer 1992

Federal Register, Volume 45, No.99, Tuesday, May 20, 1980

Federal Register, Volume 57, No.250, Tuesday, December 29, 1993

Secretary's Commission on Achieving Necessary Skills, Learning A Living: A Blueprint for High Performance. Department of Labor, April 7, 1992

Strumpf, Lori, Improving Workplace Skills: Lessons from JTPA. Center for Remediation Design, Washington, DC, April 2-5, 1989

General Session Participants:

Pamela J. Leconte
Project Director
Collaborative Vocational Evaluation Training
The George Washington University
2201 G Street, N.W.
Washington, D.C. 20052

James E. Price
Executive Director
Governor's Employment and Training Department
Commonwealth of Virginia
4615 West Broad Street
The Commonwealth Building
Richmond, VA. 23230

Patricia L. Sitlington
Assistant Professor
Department of Special Education
University of Northern Iowa
Cedar Falls, IA. 50614-0601

Linda L. Hinton
Legislative Assistant
United States Senate
Subcommittee on Disability Policy
113 Hart Senate Office Building
Washington, D.C. 20510

PUTTING THE HORSE BEFORE THE CART: THE TRANSPLANTING OF U.S. VOCATIONAL ASSESSMENT METHODS INTO THE U.K.

JOHN CHAPLIN, BILL GILLIBRAND, DEBORAH NOLTE

Abstract

A review of the development of vocational rehabilitation and vocational assessment in the U.K. is presented. Reasons for why vocational assessment practices have been limited in their development is reviewed. The lack of a clear professional body of knowledge, the authors present, is a major limitation. Without this specific focus, the utilization of standardized assessment techniques and practices is not supported by assessment practitioners in the U.K.

Introduction and Structure

The basic structure of employment rehabilitation in the U.K. is a process of logical steps to achieve employment. Vocational assessment is of course an important part of this process but it operates within a different context than that found in the U.S. We shall describe and explore that context in relation to the transplanting of U.S. vocational assessment methods into the U.K.

In order to do this, the following will be reviewed:

- The experiences of one rehabilitation unit which has developed a vocational evaluation and adjustment service
- The views expressed by U.K. professionals towards U.S. vocational assessment methods
- The structure of employment rehabilitation in the U.K.
- An examination of the barriers to the development of a comprehensive system for vocational assessment in the U.K.
- Some reflections for the future

The history of employment rehabilitation at Queen's Park Hospital

There has been work-related industrial therapy at Queen's Park Hospital (QPH) since 1963 (Gillibrand, 1987). Industrial therapy is a part of the medical services and is designed to offer productive employment at a level compatible with someone's abilities. In the U.K., this service is provided to anyone with a disability (for a description of the work of an industrial therapist see DOT 076.167-101). When industrial therapy first started at QPH, the idea was that the unit should be as similar to a workshop found in industry as possible. In order to achieve this, the hospital recruited staff from industry. At that time there was no training available for staff in vocational rehabilitation. It was not long before the staff realized that their narrow expertise based on industrial training and experience in industry was not sufficient to equip them for the demands of the rehabilitation process.

By 1972 this identified need had led to the search for expertise both from within, and outside the hospital. At first this seemed quite fruitful, a number of avenues opened up and people from different disciplines became involved. The prospect of a multi-disciplinary approach was appealing, but many of the expected benefits from this did not emerge. This attempt at a multi-disciplinary approach did not work for two reasons;

1. The diversity of backgrounds and lack of common ground made working together difficult. Each discipline tended to focus on a different aspect of the problem, which often would not include the problems of vocational assessment and adjustment.

2. There were insufficient materials to develop a more practical multi-disciplinary approach and, without the possibility of relying on previous experience in the U.K., the problems encountered could not be overcome from within a small industrial therapy unit. What this unit needed was an established system which offered signposts to how vocational assessment and adjustment could be achieved and indicators of where and how other professionals could be of the greatest use.

Their search eventually led them to some publications produced in the U.S. on vocational rehabilitation. It was not long before they realized that this could be what they were looking for and, in 1980, the manager of the rehabilitation program at QPH visited the Materials Development Center at the University of Wisconsin-Stout, in search of more material and first-hand experience. What he found there was, as he puts it, an "Aladdin's cave full of V.R. treasures".

What the American approach had to offer was a different way of thinking about vocational assessment, which was more comprehensive than the industrial therapy service at QPH was then offering. It also appeared to satisfy their concerns about a broader and more professional approach. To change their industrial therapy unit into a vocational evaluation and an adjustment services unit was a significant undertaking and involved a great deal of commitment from everyone in the unit. This they were willing to give and in three years of study and considerable correspondence with their distant tutors in the States, aided by all that the Materials Development Center at Stout could provide plus a number of working visits by undergraduates, they were able to reorganize their unit to reflect the U.S. approach. By 1984 the unit had been transformed.

The success of their unit clearly demonstrated the value of what they had found. Because of this, they thought that other units in the U.K. would quickly follow. Indeed there has been a lot of interest. However, after 9 years, the U.S. techniques and approaches have not made the impact in the U.K. which one might expect. In order to understand why this is, we have to start by looking at the attitudes of professionals in the U.K.

Attitudes Towards Vocational Assessment in the U.K.

Following a one week course for U.K. professionals on vocational assessment techniques, run by Deborah Nolte, VEWAA President, 1992, we were able to directly assess professional attitudes to the American approach. Assessment of attitudes had not been an objective of the course but it became clear during the course that the attitude differences, stemming from cultural differences between the U.K. and the U.S., were a major obstacle to the introduction of the American approach.

The first thing to emerge was that there was a great deal of interest in American methods. This was the first time that many of the participants had had 'hands on' experience of tests produced in the U.S. The course was held in London but it attracted people from all over the U.K. and from Ireland. It was a great opportunity to spend 5 days looking at current state-of-the-art information regarding vocational assessment practice and techniques, that 'Aladdin's cave'.

The participants for the course were similar to those found in most of the courses in vocational rehabilitation that the City University in London have run in the past. In other words, there was a wide range of backgrounds; people from local government agencies, charity organizations, and central government organizations. Participants included social workers, psychologists, educationalists and administrators of services.

The things they had in common were that they were all doing some form of vocational assessment, some were aware of U.S. assessment procedures but most were not, and they all felt the need for improving what they did.

This, however, was not a passive audience. They were demanding in that they wanted to know why certain techniques had been developed and what was the evidence that they worked. They wanted justification and validity for everything and each wanted this from within their own profession.

What became very evident to us was that these people were locked within the discourse of their own professions. Although they were doing a form of vocational assessment, their roots came form a variety of disciplines. What was missing was a common language to talk about assessment. There was no body of knowledge concerning vocational rehabilitation which everyone could agree upon and without this there is nothing with which to verify the techniques and approaches.

The attitudes expressed by the participants fell into two more or less opposing camps. They were excited about what they saw, in as much as many of the problems they were experiencing had clearly already been identified and techniques developed to overcome these. However, they were also suspicious of these techniques. It's all very well to see something working in a classroom situation but, when you take it into the field, will it provide the information you and the consumer really need. Each professional attempted to evaluate the techniques from their own perspective and found that they needed more information about how the whole approach had been developed. Imagine a group of people who have never seen a horse. If someone tried to sell them a cart, they would naturally be intrigued but puzzled as to how it worked. This is analogous to the U.K. professionals' problem. Clearly the way that vocational assessment has developed in the United States is different to that in the U.K. Not only have different techniques been developed but vocational assessment has a whole history which is unknown to people in the U.K. Without that knowledge, it is very difficult for professionals in the U.K. to accept the American techniques as worthy of the effort of learning to use them. In order to understand that difference a little better, let us now look at the history of vocational assessment in the U.K. and how assessment is undertaken in the U.K.

Vocational assessment in the U.K.

In the U.K., central government provision for rehabilitation began in the late 19th and early 20th centuries (Cornes, 1984). However the first and most significant piece of legislation related to rehabilitation came after the second world war. This was partly as a reflection of the post-wartime need for rehabilitation and partly the recognition, during the war years, that many people who had previously been considered unfit could be suitably placed in employment if there was the will to do so.

The report and recommendations of the Tomlinson Committee (1943) formed the blueprint for the subsequent development of policy and services in the U.K. This committee is really the key to vocational rehabilitation in the U.K. There are few aspects of policy or services that do not comply with the spirit or the letter of the guidelines they produced. For this reason it is worth looking in some detail at their view of disability.

There were three factors which characterized the way that the Tomlinson Committee saw disability:

1. Disability exists within a narrow range. This view came from the model originally applied to ex-servicemen. By implication, then, disability equaled injury.
2. The vocational problems of the disabled were not too dissimilar to those of people in long term unemployment and could be dealt with without a special provision for the disability.
3. It was possible that, given some rehabilitation, the majority of people with disabilities could be returned to their previous job or found an alternative one in open employment.

These assumptions demonstrate the attitudes at the time towards disability and are reflected in the state provision of vocational rehabilitation. This provision can be seen as comprising of seven areas.

1. A specialist assessment and guidance service within the established national network of Employment Exchanges for the unemployed. The assessment service was provided by a new post known as the Disability Resettlement Officer
2. An employment quota scheme (3% of work-force) for employers who had a work-force of over 20 people
3. A small number of sheltered workshops which provided employment for people who were unable to enter into competitive employment
4. A network of employment rehabilitation centers which were designed to give continuity between the medical services and employment
5. The establishment of a registry of disabled people with disabilities, in order to monitor provision and target help
6. The setting up of advisory committees at national and local levels to advise on development and operation of services
7. A small number of residential training colleges, all other training (i.e. the bulk) was to be found within the mainstream provision.

There is no doubt that this was an impressive set of achievements for the time. Most of the Government agencies and systems in force today were created in the 1940's and early 1950's. The post-war euphoria and the boom in employment of the 1950's and 1960's masked the problems with the system, which by the 1960's was in need of revision.

For a more comprehensive system to be brought into force, it would require the political will to initiate new legislation. However, the political will during the 1970's and 1980's was towards a more laissez-faire approach in which employers were not to be restricted with legislation. Therefore, the government's response to the criticisms of the employment rehabilitation service was to reinforce rather than change. The reinforcements that took place are as follows:

1. A code of practice for employers which detailed how to recruit and retain people with disabilities
2. A local advisory service for employers which would explain the code and assist in getting government support for employing people
3. Financial incentives to mainstream training establishments to take on people with disabilities.

Further adjustments have recently taken place in this structure and the advisory service (which is probably unique to the U.K.) has been strengthened and now includes the Disability Resettlement Officer, who was previously in the mainstream unemployment service. This is perceived as a very valuable service to employers.

The current system maintained the momentum from the Tomlinson Committee. Vocational rehabilitation was to be voluntary and local, and the problems for people with disabilities were essentially the same as those of the long-term unemployed. This is the situation that exists today.

For the individual, the major provider of assessment is the State. Assessment is provided in three stages. The front-line is within the general provision made for people who are unemployed. It is the role of the Employment Service to identify people with disabilities and refer them to specialist assessment and help if they need it. It is expected that many people with disabilities will be able to find employment without specialist help.

If there is a need for specialist help, the next stage is an assessment by a member of a Placement, Assessment and Counseling team (PACT). Access to this service is open to all, both regionally and through mobile assessment units. If the individual is assessed as requiring additional help to that provided within the mainstream unemployment provision, they will be referred on to the third level of assessment, which until recently was offered by the Employment Rehabilitation Centres (ERCs). From there, a range of rehabilitation options could be made available. This structure has provided a tight financial control.

In April 1991, following an extensive review, the U.K. Government announced that, over a period of five years, employment rehabilitation and assessment will be progressively taken out of the hands of the government agencies and contracted out to external agents, including voluntary sector organizations. Most of the old ERCs are already gone. Those that are left have been identified as centers to provide training of practitioners and development of standards.

What emerges from this history is a piecemeal development which has lacked a clear focus for professional vocational assessment. The emphasis has been on non-specialist services and voluntary codes of practice. This has not resulted in a professional body of knowledge which could be applied to the problems of vocational assessment or rehabilitation. The history has brought us to this point but, given that we have identified the problem, what is now stopping us from developing that professional body of knowledge?

Barriers to a professional body of knowledge

The barriers to the development of a professional body of knowledge are difficult to pinpoint. After all, vocational assessment in the U.S. owes much of its origin to psychology, sociology, and education as it does in the U.K. There appears to be at least five main barriers.

1. The limited state funding in U.K. Without sustained long-term funding, there is little opportunity to build the structures that are needed. This funding is not available because the legislative framework is not there to require it.

2. Different disciplines are unable to focus on vocational assessment as an area in its own right. These disciplines have chosen to see issues as being centered elsewhere. This lack of focus means that professionals do not see themselves as vocational assessment practitioners, they see themselves as psychologists or educationalists.

3. Stemming from the above is the dominance of the educational and counseling aspects of vocational assessment. This direction has been mostly away from ability or aptitude determination and towards a humanistic person-centered approach. These are perceived as being incompatible philosophies.

4. The discipline of vocational psychology, which looks at the career choice, interests and talents of people, has virtually disappeared. The emphasis is now on the management side of the equation rather than on the side of the employee (Bray, 1992). Without legislation or worker's compensation, the consumers for vocational assessment are disenfranchised and therefore unlikely to be able to pay for assessment. This provides no stimulus to the generation of knowledge in the field.

5. Very little training in vocational assessment is undertaken. The most people could expect is a one week course. This partly reflects the lack of formalized material and partly the lack of commitment to state-provided training in this area.

Putting the horse before the cart

Given the current political and economic climate in the U.K., it is hard to imagine that there will be a move towards a more comprehensive system of vocational rehabilitation brought about by legislation. Barriers due to the practices of professional disciplines are not likely to change unless their membership demands it. Therefore, of the barriers described above, the most important is that of training as this can lead to changes in the views of professionals and thereby changes in practices.

Without this training we are essentially putting the cart in front of the horse. The techniques and systems developed in the U.S. and available in the U.K. will not be properly integrated unless training in a comprehensive system of vocational assessment has been done first. The present provision cannot change unless practitioners demand that a change occurs and this again will not happen unless they know what they are aiming for.

Therefore, to put the horse before the cart there needs to be more training opportunities and more opportunities for practitioners to have access to the vocational rehabilitation material. Training should be provided on a trans-disciplinary basis; in other words it must be able to take from several disciplines and build a distinct body of knowledge that vocational assessment practitioners can rely upon. For this body of knowledge to be accepted it also needs to be grounded within our own structure of provision, without which the American approach will always appear discordant in the U.K.

The first to respond to these needs has been the City University which has recently begun to offer, for the first time in the U.K., a masters level program in Disability Management in Work and Rehabilitation. This takes a comprehensive approach towards vocational assessment and builds on the experience at QPH. Several people who work at QPH now also teach in this program. Students and professionals trained by the City University also have access to much of the material produced in the U.S. Through these techniques, City University hopes to begin to break down the barriers.

As you can see, things are changing, but we are at the beginning of possibly a very long road. Many of the techniques, approaches and products developed in the U.S. are the end result of a journey along a similar route; although we can see they are useful, we may not be able to put them into practice until we have completed that journey for ourselves. Perhaps before vocational assessment methods can be transplanted into the U.K., it will be necessary to learn more about the problems and successes of how the U.S. arrived at the point it has today. As the manager at QPH says "send us your historians".

References

Bray R. (1992). The eclipse of vocational psychology. The Occupational Psychologist 18 (Leicester: British Psychological Society). pp 4-7

Cornes P. (1984). The future of work for people with disabilities: A view from Great Britain. (New York: World Rehabilitation Fund).

Gillibrand W. (1987). Establishing a new approach. in: The Vocational Rehabilitation Department at Queen's Park Hospital. (London: Rehabilitation Resource Centre, City University).

John Chaplin
City University
Rehabilitation Resource Centre
Northampton Square
London, England EC1V0HB
phone: 01144714778000

Bill Gillibrand
The Department of Vocational Rehabilitation
Queen's Park Hospital
Blackburn, England BB2 3HH
phone: 00140254293270

Deborah Nolte, M.S., C.V.E.
Akron Public Schools
985 Gorge Boulevard
Akron, OH 44310
phone: 216-434-7774

INTEGRATING ACADEMIC COMPETENCIES IN VOCATIONAL ASSESSMENT, EDUCATION, AND TRAINING

SHERRY E. DEMOSS
DAVID R. HORVATH

Abstract

Recent legislative and educational reforms have renewed the call for education and rehabilitation professionals to coordinate their efforts in planning and providing transition services to students with disabilities. To address this challenge, the state of Virginia has implemented the Trade-Related Academic Competencies (TRAC) program. TRAC provides a resource to be used by educators and other agency personnel to empower students with disabilities to reach their occupational potential by integrating trade-related academic competencies into the process of vocational assessment, education, and training.

The primary focus in American education for the past several years has been on raising academic standards to a level which will enable high school graduates to perform successfully in an increasingly sophisticated world of work. Educational reform movements of the 1980s increased academic skill requirements, yet these increases have failed to produce a more qualified employee. One problem with the curricula changes of the 1980s was that they primarily targeted academic skills. Due consideration was not given to job specific skills, knowledge, and behaviors required of workers today.

For American workers to compete successfully in the economy of the 21st century, educators must not only raise academic standards but also provide more functionally relevant instruction. Research projects addressing this issue have been conducted by various groups across the nation including:

- The Secretary's Commission on Achieving Necessary Skills (SCANS), U. S. Department of Labor.
- Workplace Basics: The Skills Employers Want, The American Society for Training and Development.
- Commission on the Skills of the American Workforce, National Center on Education and the Economy.
- Learning to Work for the 21st Century, American Society for Training and Development.

One recurrent theme cited by the studies above was the need for a good foundation of academic skills (reading, writing, and math). Workers spend an average of one and one-half to two hours daily reading forms, charts, graphs, manuals, computer terminals, and other job-specific documents; writing reports, policies, procedures, and concepts; and computing production levels, measuring machine parts, and conducting inventories. (Carnevale, Gainer, Meltzer, 1990).

Employers today require a more highly skilled workforce. Workers are given more responsibility and are expected to solve problems, apply skills to new technologies, work independently, and assure quality standards. Inability to perform these basic workplace skills results in lowered productivity, increased accidents, production errors, and problems with workers retraining for higher level positions.

Individuals with disabilities are at a distinct disadvantage in attempting to meet the higher skill expectations of today's employers. Research from the National Longitudinal Transition study (SRI International, 1991) found that individuals with disabilities experience: a drop-out rate almost twice that of the general population, low enrollment in post-secondary education and training, high rates of unemployment, underemployment, and lower wages than the general population. Therefore, many individuals with disabilities remain dependent on society which is a great loss of undeveloped individual potential as well as an economic drain (Sarkees, Scott, 1986).

Public concern for the obstacles facing individuals with disabilities in making the transition from school to successful post-secondary arenas has caught the attention of policymakers at the federal, state, and local levels. They have responded with a number of legislative mandates. Three of the most recent include the Americans with Disabilities Act, the Carl D. Perkins Vocational and Applied Technology Act, and the Individuals with Disabilities Education Act.

The Americans with Disabilities Act of 1990 (PL 101-336) guarantees equal opportunity for persons with disabilities in the areas of:

- employment,
- public accommodation,
- transportation,
- state and local government services,
- telecommunications.

The Carl D. Perkins Vocational and Applied Technology Education Act (PL 101-392) states that:

- Individuals who are members of special populations must be provided with equal access to recruitment, enrollment and placement activities in vocational education.
- Individuals who are members of special populations must be provided with equal access to the full range of vocational education programs, including occupationally specific courses of study, cooperative education, apprenticeship programs, and, to the extent practical, comprehensive career guidance and counseling.
- Vocational education planning shall be coordinated between public agencies, including vocational education, special education, and the state vocational rehabilitation agencies.

The Individuals with Disabilities Education Act (PL 101- 476) defines transition services as follows (Section 602(a)(19):

"...a coordinated set of activities for students, designed within an outcome-oriented process, which promotes movement from school to post-school activities, including: post-secondary education, vocational training, integrated employment (including supported employment), continuing and adult education, adult services, independent living, and community participation."

"The coordinated set of activities shall be based upon the individual student's needs, taking into account the student's preferences and interests, and shall include:

- instruction,
- community experiences,
- the development of employment and other postschool adult living objectives, and when appropriate,
- acquisition of daily living skills and functional vocational evaluation."

In SEC. 602(a)(20) a requirement was added that the IEP shall include: a statement of the needed transition services for students beginning no later than age 16 and annually thereafter (and, beginning at a younger age when determined appropriate for the individual), including, when appropriate, a statement of the interagency responsibilities or linkages (or both) before the student leaves the school setting.

With an ultimate goal of increasing the employability and independence for persons with disabilities, the federal legislation described above strives to reduce barriers in the areas of education, employment, and the community. Through mandated comprehensive transition planning and interagency collaboration, persons with disabilities will be guided and supported through relevant educational programs designed to prepare them for successful adult living.

A key component in achieving adult independence is acquiring a marketable skill. Research from the National Longitudinal Transition Study confirms that participation in vocational training at the secondary level is significantly correlated with participation in postsecondary education and successful employment. Based on individual needs, vocational training may be provided in a variety of settings ranging from inclusion in regular vocational education programs to those designed specifically for students with disabilities. Selection of the appropriate vocational education program as well as the specific placement for a particular student should be based upon results of a comprehensive psychoeducational and vocational assessment. A comprehensive assessment should examine career awareness, interests, aptitudes, special needs, learning styles, work habits and behaviors, personal and social skills, values and attitudes toward work, self concept, and work tolerances (NICHCY, 1990).

For a student to be successful in a particular vocational education program, there must be a match of the student's technical aptitudes, interests, and academic skills. A study by Nancy Scott cited elsewhere in these Issues Papers demonstrates a significant positive relationship between placement in vocational education based on assessment results and successful program completion.

All vocational education programs make strong academic demands for reading, writing, and math as well as technical skills. But many individuals with disabilities do not possess a solid foundation of academic skills. Additionally, they frequently cannot generalize reading, writing, and math skills from the academic classroom to the occupational/vocational class. For these individuals to complete vocational training and be competitive on the job, it is essential that they develop the actual academic skills and the levels of proficiencies required in a specific occupational area. The Trade-Related Academic Competencies (TRAC) Program addresses this critical need.

THE TRAC MODEL

The Trade-Related Academic Competencies (TRAC) Model was designed to provide the resources for educational and other agency personnel to empower students with disabilities to reach their occupational potential. Developed at Woodrow Wilson Rehabilitation Center (a comprehensive rehabilitation facility in Fishersville, Virginia) by one hundred vocational and special educators from throughout Virginia, goals of the TRAC Program are to:

1. Identify the reading, writing, and arithmetic competencies needed for successful completion of 27 vocational education programs.

2. Identify the basic academic skills (generic competencies) required in most vocational education programs and occupations.

3. Develop lists of occupation-specific vocabulary necessary for each occupational area.

4. Construct criterion-referenced assessment instruments to measure a student's mastery level of the academic skills required in each of the occupational areas and the generic competencies.

5. Locate and develop trade-related instructional materials to be used for training the identified academic competencies.

6. Specify the social/communications skills required in the targeted occupational areas.

TRAC Competencies:

Development: TRAC competency lists were developed by small groups of special and vocational education teachers representing various school districts in Virginia. Utilizing a vocational curriculum commonly used in Virginia, and written in competency-based educational format, educators task analyzed each technical objective to determine what specific academic skills were needed to perform a targeted task. Both academic/special education teachers and vocational teachers were essential participants in the development process. Vocational teachers were subject matter experts. They were responsible for explaining the technical task required and what behaviors were expected from the student. Academic teachers contributed expertise in identifying the specific reading, writing, and math skills that would be required to perform the activity explained by the vocational teacher. When reading, writing, and math competency lists were completed and validated for each occupation, competencies found to be common to 50 percent or more of the areas were combined to form a Generic List.

In comparing the TRAC skills to the Virginia Standards of Learning, it was determined that 88 percent of the Generic List and an average of 74 percent of Trade-Specific Lists were contained in the Standards.

Validation: To confirm the validity of the academic competencies identified by the teachers, a minimum of 15 employers, job incumbants, and vocational teachers rated each competency as essential, helpful, or not important for job performance. Competencies rated as not essential or helpful by a minimum of 70 percent of the raters were eliminated.

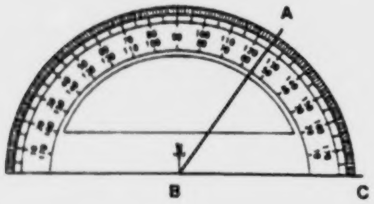
Trade-Specific Tests:

Development: After identifying required academic competencies, it became apparent that an assessment tool was needed to measure mastery of the necessary academic skills. An extensive materials search indicated that there were no published tests available to provide the type of curriculum based assessment needed. Most academic assessment instruments measure an understanding of basic academics but are not trade-specific. They could not, for example, provide information regarding a student's ability to locate an item in an automotive parts manual, read a micrometer, or find a centerpoint. Therefore, the TRAC Trade-Specific Tests were created to measure a student's academic strengths and weaknesses as they relate to a specific occupation.

TRAC Trade-Specific Tests are curriculum based and are designed to assess a student's knowledge of each stated competency on each of the 27 TRAC Competency lists. Tests are written in a progressive format so that if a student misses an easier item, the more difficult items in that particular sequence are not tested. An example of some of the items from the TRAC Carpentry Math Test is shown in Figure I.

Figure I - TRAC Carpentry Math Test

40. Measure this angle.



Angle ABC = __________

41. Find the perimeter.

Find the perimeter of a floor 10 feet long and 6 feet wide. Formula: p = 2L + 2W __________

42. Find the area.

Find the area of a rectangular room with a length of 8 ft. and a width of 9 ft. (A = l x w) __________

Administration/Scoring:

When a student has completed the test, the examiner summarizes the student's performance on a Score Sheet. An example of Dan's performance on a portion of the Carpentry Math Test is shown in Figure II. Each required academic competency is stated along with a number in parenthesis which refers to the number of items tested and the number required for mastery.

Figure II - TRAC Carpentry Math Summary Sheet

CARPENTRY MATH
SUMMARY SHEET

Name: Dan ID# 24-345 Date: 3-31-93

Carpentry Math - Continued	# CORRECT	P/F PASS FAIL
40. MEASURE ANGLES USING PROTRACTOR (2/2)	2	P
41. SUBSTITUTE NUMERIC VALUE FOR LETTER REPRESENTATION IN A GIVEN FORMULA AND SOLVE (1/2)	1	P
42. CALCULATE AREA OF RECTANGLES, SQUARES, TRIANGLES (3/3)	2	F
43. DETERMINE AREA, CIRCUMFERENCE, RADIUS, DIAMETER OF A CIRCLE (4/4)	3	F

Test results should be forwarded to the special education teacher who would then take it to the Individualized Education Program (IEP) meeting and use it to design IEP objectives and daily lesson plans.

TRAC Tests may be administered individually or in a group setting. They require no special training to administer. Administration time is approximately one to two hours depending on the student and the specific test being administered.

It is important to note that TRAC is only one component of a comprehensive educational/vocational assessment or training program. It is a critical element; however, performance on any TRAC assessment should **not** be used to exclude any student from a program. Its use lies in defining academic skill requirements so that students can be provided with academic support as needed.

Validation: TRAC Trade-Specific Tests have been piloted and revised with over 150 students in regular vocational education programs throughout the state of Virginia. Items were eliminated or modified if they were consistently missed, questioned by students, or were too long.

Integration of TRAC Program:

The TRAC Program recommends the following steps for integrating trade-related academics into the vocational assessment and transition process:

Middle/Junior High School

1. Administer the TRAC Test of Generic Competencies;
2. Include Generic Competencies needing remediation on the IEP;
3. Instruct student in any deficit areas noted by the TRAC Test of Generic Competencies.

High School

1. Administer TRAC Trade-Specific Tests in occupational areas student demonstrates interest, aptitude, and ability for as a component of a comprehensive vocational assessment;
2. Include trade-specific academic competencies needing remediation on the IEP when a specific occupation has been chosen;
3. Provide instruction as noted on IEP, including trade-specific vocabulary and social/communication skills as determined appropriate.

Use of TRAC materials:

TRAC competency lists and assessment results are useful tools for communication among students, parents, teachers, career counselors, and vocational evaluators. Competency lists may be used to promote communication between special educators and vocational educators in identifying academic skill requirements for a particular occupational area. They are also helpful in describing the academic skill requirements to students and parents. TRAC assessment information identifies individual student academic strengths and weaknesses as they relate to a particular occupation. Used in combination with other assessment information including behavioral observations, stated interests, aptitudes, and achievement testing, the TRAC assessment guides students in choosing postsecondary education and/or employment options.

Summary:

Educators and other agency personnel must continually strive to prepare students for the skills required by a rapidly changing economy. It is no longer enough to provide basic skill instruction. Instruction must be directly related to a student's chosen postsecondary employment goals. The TRAC program provides a means for making academic instruction meaningful and relevant to students.

Successful completion of vocational education by students with disabilities will not guarantee occupational success in adulthood, but lack of success with vocational education may guarantee occupational failure in adulthood (Minskoff, DeMoss, in press). The TRAC program is a good beginning for use in guiding and supporting students with disabilities in vocational education and job preparation. However, the ultimate success of any program depends on the interests, dedication, and accomplishments of the participants.

For more information on the TRAC Project, contact Sherry DeMoss, TRAC Project Director, Woodrow Wilson Rehabilitation Center, Fishersville, VA 22939 (703-332-7305).

References

Americans with Disabilities Act of 1990. (1990). Public Law 101-336.

American Society for Training and Development. (1989). Learning to Work for the 21st Century. Alexandria, VA: Author.

Carnevale, A., Gainer, L., & Maltzer, A. (1990), Workplace Basics. San Francisco: Jossey-Bass.

Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990. (1990, August 2). Public Law 101-392.

Individuals with Disabilities Education Act. (1990). Public Law 101-476.

Minskoff, E., DeMoss, S. (In press), Facilitating Successful Transition with the TRAC Model for Assessing and Developing Academic Skills Needed for Vocational Competence. Learning Disability Quarterly.

National Association of State Directors of Special Education. (1992, July). Job Skills of 90's Requires New Educational Model for All Students. Liaison bulletin, 11(5), 1-13.

National Center on Education and the Economy. (1990, June). America's Choice: High Skills or Low Wages! Rochester, NY: Author.

National Information Center for Children and Youth with Handicaps (NICHCY). (1990). Vocational Assessment: A guide for Parents and Professionals. Washington, DC: Author.

Sarkees, M., Scott, J. (1986). Vocational Special Needs. Homewood, IL: American Technical Publishers, Inc.

Secretary's Commission on Achieving Necessary Skills. (1991, June). What Work Requires of Schools: A SCANS Report for America 2000. Washington, DC: U. S. Department of Labor.

U. S. Department of Education. (1991). America 2000: An Education Strategy. Washington DC: Author.

Wagner, M. (1991, April). The Benefits of Secondary Vocational Education for Young People With Disabilities. Findings from the National Longitudinal Transition Study of Special Education Students. Menlo Park, CA: SRI International.

Dave R. Horvath
Transition Services Coordinator
Department of Rehabilitative Services
P. O. Box 11045
Richmond, VA 23230

Sherry E. DeMoss
TRAC Director
Woodrow Wilson Rehabilitation Center
Fishersville, VA 22939

THE AMERICANS WITH DISABILITIES ACT: RESOURCES FOR IMPLEMENTATION THROUGH VOCATIONAL EVALUATION

Stephen Thomas
Cheryl Bowers
Dale Batten
Bruce Reed

ABSTRACT

This article will present three approaches to addressing ADA compliance by vocational evaluators. Services covered include pre-employment testing, job analysis, and assessing reasonable accommodation. Case studies and examples will be used to illustrate professional practice.

The implementation of the Americans with Disabilities Act (ADA) has created unique needs and markets for vocational evaluation services. This article will review three different services currently offered by vocational evaluators that specifically address needs of the ADA. The Forum panel was composed of professionals who provide services relevant to ADA compliance and those practices will be described in this article. The article will begin with a section by Cheryl Bowers, president of Career Vocational Assessment in San Jose, California, entitled "Pre-Employment Testing and the ADA". This will be followed by "Job Analysis and the ADA" by Dale (Dee Dee) Batten, a vocational evaluator with the Richmond Area Vocational Evaluation Center, Department of Rehabilitative Services in Richmond, Virginia. The article will conclude with a section by Bruce Reed, project coordinator of the Weld Coalition for Assistive Technology at the University of Northern Colorado in Greeley, Colorado, entitled "Reasonable Accommodations in Vocational Evaluation and ADA Compliance". These services are examples of what can be accomplished by creative and resourceful evaluators in helping society meet the intent of the ADA.

PRE-EMPLOYMENT TESTING AND THE ADA

The Law

The Americans with Disabilities Act encompasses a vision of a future where virtually all workplaces and places of public accommodation will be readily accessible to persons with disabilities" (Adams, 1992). Realization of this vision involves systematic review and in some cases alteration of existing employment practices. Implementation of the law means, among other things, employers will need to rethink their hiring and employment practices to be in compliance.

The Task

The vocational evaluation firm of Career Vocational Assessment (CVA) was asked to review and comment on ways to best bring into compliance the written pre-employment tests used by a major employer in the state of California. As a firm that specializes in vocational evaluation we were asked to serve as a consultant because we were seen as having expertise in the provision of vocational assessment and testing for people with disabilities. We have three offices in the San Francisco Bay Area of California. Our staff is comprised of Certified Vocational Evaluators, Registered Occupational Therapists, and Certified Rehabilitation Counselors. We also consult and collaborate with Licensed Physical Therapists and Licensed Psychologists. We serve individuals with physical, cognitive, and emotional disabilities as well as the economically disadvantaged and those with substance abuse problems. Our assessment approach includes paper and pencil testing, work sample administration, situational assessment and functional capacity testing. It is often necessary for us to modify the testing situation to provide maximum opportunity for accurate assessment when working with people with special needs.

I have been asked to participate in this panel discussion on ADA implementation at the Interdisciplinary Forum for the purpose of sharing our work on ADA compliance and what we learned on this project. In the tradition of presenting a case example, I will begin with an introductory history and background of the project, followed by an explanation of our task, what was accomplished and how we met our goals.

Why We Were Selected to Provide the Service

People are always interested in knowing how we were selected as the consultants for this project. What were our marketing techniques? In this case, our company has been active for years in voluntary projects to benefit the community. These services include pro bono work, serving on local and state professional organizations, such as California Vocational Evaluation and Work Adjustment Association (Cal-VEWAA) and California Association for Rehabilitation Professionals (CARP), as well as volunteering for legislative guidance committees. As a result, we are recognized beyond our local referral sources, and were already known and respected by the larger rehabilitation and employment community.

The Goal

Our consulting task was two-fold: we needed to evaluate the actual testing site for accessibility compliance and we needed to evaluate the written tests to recommend appropriate reasonable accommodations. The purpose of evaluating the testing site was to identify physical barriers and make recommendations for modifications in order to bring the employer into compliance with Title III (dealing with public accommodations) of the ADA. Evaluation of the written tests was intended to assist the employer in identifying barriers to compliance under Title I of the ADA, which deals with equal employment opportunities. Accessible job announcements, fair and accessible administration of test materials, barrier-free test materials that are relevant to essential job functions, and fair and accessible means of responsing to test questions are all part of equal opportunity in pre-employment testing.

The Team

Our team consisted of two certified vocational evaluators, one who had special expertise in working with persons with spinal cord injuries and visual impairments, and another who had special expertise in working with individuals with head injuries, learning disabilities and hearing impairments. In addition, one occupational therapist who is also certified in vocational evaluation was a core team member. The employer was represented by two managers who were responsible for employee recruitment and assessment. The last part of our team consisted of consumer advocates in our local community. This was truly an interdisciplinary effort.

The Process: Part One - Site Accessibility Assessment

For the assessment of accessibility one evaluator and the occupational therapist made a site visit. Using a modified version of the California Building Code, Title 24 (Access Standards for the Physically Handicapped) as a model, the facility was evaluated for accessible parking, building access, access to the testing area and restrooms. Within the testing room accessibility issues included natural and ambient lighting conditions and opportunity for modified lighting if requested. The acoustics were rated for noise reduction from other areas of the building and ability for sound to effectively carry within the room. Alternative, accessible testing sites which would allow for individual testing were also identified. The tables and chairs were evaluated for accessibility by little people, people with orthopedic injuries, people in wheelchairs, and those who ambulate using crutches, walkers, etc. Following a thorough site evaluation, a written report was submitted with recommendations for modifications.

The Process: Part Two - Considerations for Test Modification

Next came the assessment of the procedures for test administration. It was the practice of this employer to have the pre-employment tests administered by testing technicians who were trained in standardized test administration and taught to use standardized test manuals. The first line of decision regarding test modification would rest with the technicians. A three-tiered level of modification was decided upon after lengthy discussion between consultants and employer representatives.

Level I tests would be those that could be modified using a set of written guidelines that was to be developed by CVA. These modifications would be easy to provide and administer and could be accomplished in a standard fashion, thus removing the need for extensive training on methods of test modification for the testing technicians. Level two modifications would be introduced in Level I modifications if they were seen to be inadequate or inappropriate. A Level II modification would be achieved through consult with an assessment and recruitment manager who had undergone training in ADA implementation and test modification. These modifications would be more individually tailored and perhaps incorporate nonstandard modifications that were requested by an individual, such as the use of a special computer adaptation. A Level III modification would involve referral to a vocational evaluator center that had thorough understanding of the essential job skills being measured via job description of essential job functions.

We were now ready to begin the actual evaluation of the testing materials. For this portion of the task we relied on three primary resources: Standards for Educational and Psychological Testing, which is a publication of the American Psychological Association (APA, 1985), Essentials of Psychological Testing, Fifth Edition (Cronbach, 1990), and Psychological Testing, Sixth Edition (Anastasi, 1988).

In all three references there are guidelines for test modification for people with handicapping conditions. The procedural adaptations address the basic categories of physical handicap, "hearing, visual and motor impairment" (Anastasi, 1988). Suggestions include such modifications as: enlarged print, braile, tape recorded material, sign language interpreters, dictated answers, extended time limits, readers, use of computers or typewriters, material magnification, and specially modified tests with relevant norm groups. Anastasi identifies two principle ways of modifying test administration: modify existing test or utilize individualized clinical assessment based on test scores, biographical history, interviewing, and judgment of adequately informed every-day life observers. The latter was intended primarily to address modifications for educational settings and it would most likely have little relevance to pre-employment screening for adults. We thus elected to emphasize the former and to incorporate the above mentioned basic procedural adaptations with those which CVA and other evaluation specialists have identified as functionally useful.

In addition, CVA considered special adaptations relevant for orthopedic injuries, repetitive motion syndromes and amputations, circulatory and respiratory diseases, nervous system disorders, kidney diseases, gastrointestinal disorders, disorders of the pancreas, cancer, bone diseases, joint diseases, diseases of the muscle, burns, computation, HIV/AIDS, emotional disorders, and problems of substance abuse. We analyzed each test used in the pre-employment testing process for accessibility, considering potential limitations in all sensory modalities, as well as limitations of motor or language response. Thus we considered test administration, test materials, and means of responding to test questions.

Only a partial listing of the modifications which were introduced will be identified in this paper. We made recommendations for multiple means of responding to questions via modified answer sheets, and utilizing computers with "sticky" keys and joy sticks. There were also recommendations as to ways a table might be modified to accommodate wheelchairs (elevated table using leg extenders or blocks), or orthopedic injuries that require frequent standing alternating with sitting (portable podium). Individual testing rooms were recommended for those with cognitive problems involving distractibility or emotional problems requiring reduced stress. A standard recommendation was for extended time. The Testing Standards (APS, 1985) identified this modification as one used by nearly all national testing programs. We relied on local consumer advocate groups for recommended standards of time extension (we found consistent recommendations that supported between group versus among group variance). Our list of modifications was quite extensive (this section of our manual was 67 pages!).

As each individual pre-employment test was analyzed for accessibility, attention was given to the content and intent of the test in relation to the job description(s). If a modification was deemed to have significant alteration to the intent of the test, it was removed from consideration. For example, if a test was intended to measure skill in using a map to perform the job of delivery driver, it was not modified for accessibility for blind person (i.e. braille). Conversely, those tests which were deemed to be discriminatory by testing beyond essential job functions, were eliminated or modified to more closely simulate the actual job requirements. For example, a person with low vision might be able to perform the essential job functions of customer complaint clerk, yet not be able to complete a standardized test requiring the ability to complete written paper and pencil forms. Placing this test on an enhanced computer screen would make both the test and the essential job task accessible.

We also provided the employer with a listing of accommodations and providers so that they might purchase their own equipment. This allowed the employer to be placed on various mailing lists that will continue to provide listings of additional accommodation equipment for future needs. We were eager to develop a relationship with this employer that was educational and empowering rather than one of continued dependence.

The Challenges

In undertaking this project we faced several significant challenges. The first and most obvious was that of test standardization and threats to validity and reliability with the introduction of modification. Without modification, Cronbach (1990) notes "conventional testing can only be a barrier to the physically handicapped". With modification the Testing Standards (APA, 1985) note that "there have been few empirical investigations of the efforts of special accommodations on the resulting scores or their reliability and validity". They went on to state that modifying tests for individuals with handicapping conditions is generally regarded as desirable. The major concern is that the modified test continues to measure the same construct. The importance of having job descriptions that identify essential job functions cannot be emphasized enough when looking at whether modifications to tests meet the criteria of possessing accurate construct measures.

A second challenge was providing a list suggestions and modifications that were reasonable in cost and minimal in disruption to existing systems.

The Future

What we learned from this experience is that there is very little empirical research to guide employers in modifying the pre-employment testing process in order to meet the new ADA requirements. A future direction for vocational evaluation specialists is in the provision of empirical research on the effects of test modification. We can also prove valuable in providing consultation to and specialized assessment for employers.

JOB ANALYSES AND THE ADA

Job Analysis is a method of identifying the essential functions that make up a job and describing the knowledge, skills, and abilities required by workers for successful job performance.

As Vocational Evaluators, we use job analysis for various reasons:

Accessibility - employers and employees call upon us to make sure public services and public spaces are functionally usable by individuals with and without disabilities to their maximum extent possible.

Reasonable Accommodation - we have been asked on several occasions by both employers and employees to assist in issues of reasonable accommodations. Employers need to consider all options possible in making the application process available for a qualified person with a disability. For example, a person who is deaf needs an accommodation for the interviewing process through the use of an interpreter.

Other reasonable accommodations could include but are not limited to making existing facilities readily accessible for all persons that qualify for a position. Part-time work schedules or modified work schedules are also part of reasonable accommodations.

CASE STUDY 1

A job analysis has been performed on an employee that had sustained a disabling condition and was no longer able to perform her job duties. Reasonable accommodation was accomplished through reassignment to a vacant position.

CASE STUDY 2

Reasonable accommodation was made for job restructuring. An employee could no longer perform all the duties of a mail clerk's position and due to limited staff in that department, taking orders over the telephone was an essential function. In these types of analysis we use the assistance of other professionals such as a rehabilitation engineer, who in this case was able to assist with development of a technical device that allowed this employee to fulfill the essential telephone duties.

We also use an occupational therapist on job analysis to assist with reasonable accommodations. The occupational therapist helps employees change the methods of performing job duties and/or assess their functional capacity for performing the essential functions of a job.

CASE STUDY 3

I worked with a case through the VA Department of Rights for the Disabled where a supervisor had been dismissed from his job and received basically the same position in another state. I performed a job analysis of his previous job duties of a supervisor at the job site. I then scheduled this client to have a physical tolerance screening performed. I sent a copy of the job duties and physical requirements needed to perform the job duties to the company. This client's assessment indicated he was capable of performing his previous job duties. Since the company in question had not given him an opportunity to demonstrate his skills, he won the case and received a settlement. As it turned out, this individual had behavior problems on the previous job and the disabling condition was an excuse for the company to terminate him.

When we perform job analysis for reasonable accommodation purposes, we have to make sure the company receives no undue hardship in making the accommodations. Undue hardship means causing the company significant cost for the accommodation needed.

CASE STUDY 4

We were asked to assist a company that was involved in a law suit under the ADA, due to an employee grievance for denial of a promotion to lead groundskeeper. This individual had been a groundskeeper prior to a motorcycle accident and was now paralyzed. A job analysis was performed after the accident. Based upon vocational evaluation findings, the company was told this client appeared capable of handling training for a computer data entry position. The company trained this individual and he remained employed with the company. When the position of lead groundskeeper became available, the employee wanted to work in this outside job. A complete job analysis was performed and report results indicated the employee could not perform the essential functions of this position, which would cause undue hardship to the company.

When a Job Analysis is performed, we look at three essential parts of the job:

Job Content - identify and describe the activities of the job ranging from general statements of the job activities through a detailed description of duties and tasks, or from detailed statements of steps or elements involved in a particular process, to descriptions of motions (movements) needed to perform the activity.

Job Requirements - identify the skills, abilities, areas of knowledge, and physical and other characteristics required to perform the content of the job in a particular situation or context.

Job Context - the context in which the job is performed generally includes factors such as its purpose, the degree of accountability or responsibility of the employee, the availability of guidelines, the extent of supervision received and/or exercised, the potential consequences of error, and the physical demands and working conditions of the job.

The Americans with Disabilities Act addresses the essential functions of the job that involve the purpose and the importance of actual job duties in achieving the job's specified outcome. Essential functions are the fundamental job duties not the marginal functions of the position. For example, my essential job duties as a vocational evaluator are to assess the potential of clients served by the Department of Rehabilitation Services for vocational planning and job placement. Therefore, the "job analysis" duties within my job role are considered marginal.

A job analysis will be most helpful for purposes of ADA if it focuses on the results or outcome of a function, not solely on the way it is customarily performed.

CASE STUDY 5

An employer wanted to promote an individual who is deaf to a position of photographic laboratory technician. The employer was concerned about communication in the dark room. A job analysis was performed and recommendations were made to use a TDD for communication. The employer was not worried about the customary way the job was being performed but wanted to make reasonable accommodations to ensure the employee could achieve the expected results of the job.

How job analysis results are reported depends largely on the audience that makes the request for the job analysis. Since job analysis reports will be used by a variety of individuals, they should be written in functional, descriptive, nontechnical language. The narrative section of the job analysis is a critical portion of the report and clarity is essential to its effective use. A large number of employers will request a written report particularly if an upgrade or job restructuring analysis has been completed. On thses occasions, the evaluator must spell out the specifications of the job in a manner that can be readily understood by the representative of the company.

When an Evaluator has detailed descriptions of job duties the selection of tests to be used for assessing the characteristics required in the position is easier. We look at the Process: tasks most frequently found in the job analysis, identify the traits necessary for satisfactory completion of the tasks. Then based on available test, we select the test or work sample that most clearly measures the identified trait. On certain occasions, we find traits of the position that cannot be measured with equipment found in the evaluation lab. If purchasing needed equipment is not feasible then it is appropriate to design, construct and validate a test or worksample. We have been given equipment from the analyzed job site to use for assessment purposes.

There are additional benefits for evaluators who conduct job analysis. For example, an automotive assembly plant, where job analysis was being conducted, gave the evaluator reject assembly parts for the development of a work sample.

In summary, job analysis originated from industrial engineers and psychologists for the purpose of classifying jobs. The Dictionary of Occupational Titles (DOT) was developed using job analysis. Vocational evaluators have adopted this methodology for providing essential information about the requirements of jobs, for work sample development, and for assessing a worker's performance. Job analysis provides the evaluator with current changes in jobs so that vocational recommendations can continue to be realistic and job specific. Increased use of job analysis by vocational evaluators is strongly recommended, and with the availability of computers, job analysis information can be used to create and update job banks and to match qualified clients to appropriate jobs.

Job analysis forms that were adapted from the ADA Compliance Guide and used in this project can be found at the end of this article. They include: Form BB, BB1, Form Y, and Form X.

REASONABLE ACCOMMODATIONS IN VOCATIONAL EVALUATION AND ADA COMPLIANCE

As the implementation of the Americans with Disabilities Act has arrived, many challenges exist for carrying out the mandates. As vocational evaluators, understanding and fulfilling the statutes as they relate to our profession is no easy task; however, it is an essential one. The following presentation will examine the ADA issue of reasonable accommodations as well as discussing the use of assistive technology in providing reasonable accommodations from a vocational evaluation perspective.

A reasonable accommodation can be considered any adjustment to job duties or the work environment that allows a qualified applicant or worker to perform the essential functions of that job as long as an undue hardship is not placed upon the employer. The premise of reasonable accommodations also extends to areas such as the application process, transfers and promotions, and employee benefits. Examples include allowing for modified work schedules, job restructuring, the use of assistive technology, and readers or interpreters (Satcher, 1992).

Writing in the Fifth National Forum, Langton (1991) called upon evaluators to expand our thinking of reasonable accommodations beyond applications to employers and referral sources; to consider accommodations within the evaluation process as well. Consideration of accommodations outside versus within the assessment are clearly not exclusive, as an effective accommodation in one setting may also be effective in the other setting. The call to actively incorporate accommodations within the evaluation is a legitimate one.

To fully incorporate reasonable accommodations into the assessment site, evaluators must view it as a process. When first reading referral information regarding a new client/student, one should be thinking about possible accommodations. Will back supports be appropriate? Is a modified schedule appropriate? Will text enlargers and magnifying devices need to be used? Can an alternative method of assessment be devised?

As always, the individual with functional limitations is frequently the best source of information. If such issues are considered during the evaluation but not in the planning stage, the spirit of the ADA may have been violated to the detriment of the client/student.

Assistive Technology

The use of assistive technology (also referred to as rehabilitation technology) within the evaluation can be a key element toward accommodation. Defined as items and services that increase the functional capacities of people with disabilities (Institute of Rehabilitation Issues, 1986), this technology can range from low-tech (blocks of wood under a table) to high-tech (voice activated computer systems) with many levels in between. The use of "talking calculators", adjustable tables and chairs, text enlarger software programs, and desk top organizers are all relatively inexpensive and can assist people with disabilities in demonstrating their capabilities.

With knowledge and proper use, assistive technology has a key role to play in many evaluation settings. Accessibility of the evaluation site, modification of work samples, and the use of specialized assistive devices are all areas that assistive technology can help address. As this is a new and constantly changing field, it is a difficult one to master. However, the evaluation staff that can offer expertise in the use of assistive technology will have provided a needed service that should translate into increased referrals.

The following are some thoughts on how to effectively use assistive technology at your evaluation site; it is a given that some of these ideas will be more appropriate for some settings than others (e.g., public versus private-for-profit):

* As Anthony Langton (1991) called for, develop your own "technology team". It is very difficult for any one person to acquire and maintain the needed information in such a diverse field. By Collaborating with others (independent living specialists, occupational therapists/physical therapists, computer access specialists, etc.), the needed expertise can be gathered.

* If such teams are not possible, continue to increase your general knowledge and consider establishing realistic areas of expertise. For example, the ability to evaluate for computer access might become your "calling card".

* Compile your own assistive technology library of vendor catalogs, books, manuals, key contacts and telephone numbers. Learn who and where to call with your questions.

* Try to acquire assistive devices for use and demonstration during the evaluation.

* Think of your clients' functional limitations and what technology is available that will positively impact those limitations.

* Consider developing your own assistive technology checklist. At the Rehabilitative Service Clinic at the University of Northern Colorado, Greeley, Colorado, the evaluation staff recently developed such a list. In essence, the list is an inventory of on-site devices available to meet the needs of various functional limitations. For example, a person with lifting and reaching limitations might make use of "grabbers", a portable lap desk, carts (for moving heavy objects), and desk top organizers. The checklist is discussed with the potential user during the intake interview. This process ensures that both the evaluator and the client begin thinking about assistive technology immediately. Also, when appropriate, client exploration of assistive technology is written into the individual evaluation plan. Hopefully, the individual will walk away from the evaluation experience with an increased knowledge and can transfer this knowledge to future settings.

* Address assistive technology issues as specifically as possible in the recommendation section of the final report. Include exact names, devices, vendors, addresses and telephone numbers, etc. whenever possible. When appropriate, make referrals to other related services such as a rehabilitation engineer.

In conclusion, it is the ADA mandate that reasonable accommodations be considered. As vocational evaluators, we need a level of accommodations expertise to assist in assessing for and recommending successful job and training placements. In particular, we also need to know how to make reasonable accommodations within the evaluation process. The use of assistive technology is a key component in accomplishing threse goals.

REFERENCES

Adams, J. (1992). The law of the ADA: Terminology and regulations. In Wallack, N.B. & Cermele, D.E. (Eds.), Understanding the Americans with Disabilities Act. (Available from Hatherleigh Co. 1-800-367-2250).

American Psychological Association (1985). Standards for educational and psychological testing. Washington, DC: Author.

Anastasi, A. (1988). Psychological Testing (sixth edition). New York: Macmillian.

Cronbach, L.J. (1990). Essentials of Psychological Testing (fifth edition). New York: Harper & Row.

Equal Employment Opportunity Commission (1992). Americans with Disabilities Act Handbook. Washington, DC: U.S. Department of Justice.

Institute of Rehabilitation Issues (1986). Rehabilitation Technology. Menomonie, WI: Research and Training Center.

Langton A. (1991). Making more effective use of assistive technology in the vocational evaluation process. In R.R. Fry (Ed.), Fifth National Forum on Issues in Vocational Assessment: The Issues Papers (pp. 63-68). Menomonie, WI: Materials Development Center.

Satcher, J. (1992). Responding to employer concerns about the ADA and job applicants with disabilities. Journal of Applied Rehabilitation Counseling, 23(30, 37-40.

Wells, R. (1992). Job Analysis Manual. Richmond, VA: Virginia Department of Rehabilitation Services.

FORM BB

ACCOMMODATIONS

DISABILITY	POTENTIAL PROBLEM AREAS	POSSIBLE SOLUTIONS
BLIND AND VISUAL IMPAIRMENT	Travel paths Displays of information Written directions Elevator operating buttons Completing written forms	Eliminating cluttered passageways Use of large print or optical aids Use of devices with synthetic speech Labeling in braille Respond to questions orally
DEAFNESS AND HEARING IMPAIRMENT	Information obtained through: telephones warning devices (fire alarms, PA systems) equipment operating Communication with supervisor, employees	Use of an interpreter Installation of a TDD Publication of written announcements Use of amplification devices Policy of accommodating lip readers Allow mail–in procedures to be used
MENTAL IMPAIRMENT	Difficulty understanding: signs controls instructions from supervisor operating instructions	Use of visual cues Provision of assistance to answer questions or provide instructions Job coaching
UPPER BODY MOVEMENT IMPAIRMENT	Difficulty operating certain equipment Difficulty reaching for certain materials Including: hand controls on doors rest room fixtures telephones vending machines light fixtures	Relocate a program, service, or work station to a more accessible area Use of adaptive equipment or assistive technology Modification of present hardware or equipment
MOBILITY IMPAIRMENT	Routes of travel: curbs, walkways, uneven surfaces, carpet, textured floors No grab bars, handrails or other supports No designated parking spaces for persons with disabilities Entrances, doors and hallways Distances from parking, public transit Restrooms, phones and water fountains Location of controls and general hardware	Replace existing hardware and equipment Make necessary changes to structure to eliminate barriers such as: install ramps widen doorways Relocate a program, service, or work station to a more accessible area

Adapted from the "ADA Compliance Guide"

FORM BB1
REASONABLE ACCOMMODATION

PROCESS	RESULT
Job analysis in order to determine the essential job functions.	
Determine how the disability limits essential functions. This should be accomplished with the full involvement of the employee.	
Identify accommodations to overcome the limitation. Determine the effectiveness and the extent to which it is feasible.	
Employee's preference should be considered. Employer should select the accommodation which best meets both the employer's and employee's needs.	

BEST COPY AVAILABLE

FORM X

ESSENTIAL FUNCTIONS DETERMINATION

POSITION			COMPANY	
LOCATION				
JOB FUNCTIONS				
Is this job function one that must be performed?				
Can other current employees perform this function if the person with a disability cannot?				
Would the job fundamentally change if this function were moved from it?				
Does this job exist primarily to perform this function?				
Is special expertise required?				
Is a license required to perform this function?				
Are there significant consequences to not performing this function?				
How much time per week is required for this function?				
Is this function essential?				

Adapted from the "ADA Compliance Guide"

FORM Y

JOB SITE SURVEY

COMPANY
ADDRESS
CONTACT
POSITION

DATE
TELEPHONE
TITLE
SALARY

WORK SCHEDULE
REVIEW PERIOD
COMPANY BENEFITS
SUPERVISION
PROXIMITY OF CO-WORKERS
WORK SITE LAYOUT

WORK DEMANDS

( ) SPEED
( ) THOROUGHNESS
( ) REPETITION
( ) TEAMWORK
( ) INDEPENDENCE
( ) TASK VARIETY
( ) JUDGEMENT
( ) ROUTINE

MAJOR CAUSES OF REPRIMAND
ACADEMIC AND RELATED SKILLS
MACHINERY AND EQUIPMENT
SUMMARY OF DUTIES

ENVIRONMENTAL OBSERVATIONS

ATMOSPHERE

( ) FRIENDLY, OPEN
( ) BUSY, RELAXED
( ) SLOW, RELAXED
( ) STRUCTURED, ORDERLY
( ) UNFRIENDLY, INDIFFERENT
( ) BUSY, TENSE
( ) SLOW, TENSE
( ) UNSTRUCTURED, DISORDERLY

PHYSICAL

( ) CLEAN AREA
( ) SAFE ENVIRONMENT
( ) BARRIER FREE
( ) RAMPS, CURB CUTS

PHYSICAL CONDITIONS

COMMENTS

RECORDER
TITLE
DATE

Selecting Vocational Evaluation Tools

Randall S. McDaniel
Michael C. McClanahan
Auburn University

ABSTRACT

A number of commercially-available vocational evaluation testing systems and job search software are on the market which make claims to accurately predict vocational outcome. Most vocational evaluators utilize a standard sequence of data collection which includes evaluation systems and software as two components to the overall process. They also utilize these tools for various purposes including vocational prediction and occupational exploration. The argument is presented that the intended use of the instruments determine the way they should be assessed. Guidelines are presented for users in selecting these commercial vocational evaluation systems and software.

Vocational Evaluation is a process of assisting job seekers in making career decisions and developing a plan of action to enter the job market. Evaluators in this process do not depend on a single set of information but instead utilize multiple sources of input, both traditional and nontraditional. That information includes, but is not limited to, social history, educational attainment and skills, vocational history, medical limitations, behavior observation, situational assessment, personal needs, and vocational test data. In this process, a standard sequence is followed in which one method of data collection most often precedes the next one in the same sequence every time; however, the specifics within the sequence vary according to the individual's situation and needs. To give an example, evaluators begin their process with a review of relevant background data as a first step in their sequence before they take on the next step of conduction a fact-finding interview with the client. In general, these sources of information are gathered before any testing begins which is another standard part of the sequenced process. This type of a decision-making process in which a standard sequence is followed but the steps within the sequence vary was researched by Krumboltz (1979) who suggested that in using this model, the entire model predicted outcome better than any of the parts. He called it a multistaged sequential decision-making model.

This model of decision-making fits exactly the Nadolsky Model of Vocational Evaluation which was based on Nadolsky's research of the steps vocational evaluators utilized in conducting a vocational evaluation (Nadolsky, 1971). Twenty years later, it might be argued that some of the steps have been abandoned but it appears vocational evaluation is conducted in great measure along the same sequential lines with the same ultimate goals. Nadolsky later in his research found that using this type of decision-making model as a whole better predicted vocational outcome over the long term than did an approach based on giving one vocational evaluation system only which he called the system approach (Nadolsky, 1973). The point is that vocational evaluation follows a standardized path and uses multiple data points on which to base decisions and recommendations, not just the results from one commercially available evaluation system. Therefore, *the process predicts, not the tools.*

Uses of Vocational Evaluation Systems

In practice, vocational evaluators expect their commercially-available instruments to perform many functions. As was pointed out in the Issues Forum

(Crow, 1973), vocational evaluation is a labor-intensive, time-consuming assessment process which utilizes nonstandardized tests and situations or utilizes standardized tests in nontraditional ways. Evaluators, for example, commonly violate the time constraints on paper-and-pencil tests and utilize work sample systems to both derive vocational aptitude scores and explore occupational interest. The commercial market even includes several software systems for assisting vocational evaluators to convert any test score to achievement level or aptitude they think it measures in order to run a computerized job search.

Three of the more common functions expected of commercially-available testing systems are occupational information, work sampling, and vocational aptitude testing. For each of these purposes, the criteria for assessing the system should be different.

Assessment Criteria for Occupational Information and Work-Sampling

In providing occupational information, vocational evaluators expect their evaluation instruments to present realistic situations for the evaluee to explore which accurately represents the occupational area. Therefore, if a client is placed on a system to determine if she would rather work in cosmetology than welding, it is expected that the tasks the evaluee undergoes are representative of cosmetology and welding so that a meaningful comparison can be made to arrive at a vocational choice. In a broader sense, the same holds true for looking at the interest in performing production work or working with people, or any of the temperament and interest factors found in work. Occupational information systems can, therefore, be viewed as a complex type of interest testing.

Hence, it is recommended, in selecting a system for this purpose, that it have high face validity to the occupation and that it contain problem situations which are representative of those encountered on the job. High-face validity means that the tasks look like the work which it represents. This is a judgment of anyone who knows the job well and is often expressed in terms of agreement from job experts that the occupational exploration tasks have high, moderate, or low face validity. In our cosmetology example, the tasks should involve working with hair to both clean, cut, and dye it and may even include matching colors or the selection of pleasing hair shapes on different face designs. Common problems encountered on the tasks of the job should also be included. This reality based interest testing is incorporated to give the evaluee a feeling of the day-to-day decisions to be made and problems to be encountered.

Criteria for Selection in Work-Sampling

A work sample is a piece of work, either real or simulated, which is performed for the purpose of determining if the evaluee can effectively do that particular job. Work samples are generally built around job clusters in or across industries and can be given after other tests which determine that the work sampling job area may be feasible for the evaluee. Following our example, a work sample in cosmetology is used to assess the evaluee on performance based criteria used to measure the ability to do the essential job functions of a cosmetologist. As might be expected, work samples are generally based on exacting job analyses conducted on the job in question and have to be updated periodically to stay in step with changes in the job.

The single most important criterion for a good work sample, therefore, is content validity; the content of the work sample should match on a point-to-point basis with many of the job tasks and certainly the ones deemed essential to the job. Content validity is established through a comparison of the work sample and the actual job description and is usually expressed in a percentage of job task inclusion in the work sample. Agreement in the 70% range is not unusual. It may be found that the test has predictive validity and is able to adequately predict vocational outcomes; however, for work samples the notion of content validation may surprisingly be more important in that, again, the process in this case is seen as more predictive than the individual tools.

Another important consideration when selecting work samples is the reliability of the instruments. Due to the physical nature of many of these tests and tasks and the learning curve involved, it is not expected that work samples would have perfect reliability. People should get better on them with practice. The amount of practice has been well debated but conclude it to say for purposes here that this effect has to be considered in assessing reliability. However, a reasonable degree of reliability should be obtained as a test that is poorly reliable contains too much error variance and not enough true score to make it worth using. Therefore, a moderate to better reliability should be used in assessing the instrument. These are usually reported in test-retest or split halves forms on work samples and should be a coefficient of correlation over .50 for the most confidence in the test. In general, the higher the better. A number of other criteria can be assessed in selecting instruments for work sampling but these are the most important. Other criteria are included in the next section on vocational aptitude testing.

Criteria for Selection in Vocational Aptitude Testing

Vocational aptitude testing has a long and dismal history since the 1930's when it has been shown that on their own, these tests do not predict vocational outcomes well

(McDaniel, 1986). Vocational evaluators like to use their instruments as complex batteries of vocational aptitude tests to differentiate broad areas of vocational ability from areas of weakness. In this way, they use these tests to narrow down the possibilities to focus the assessment process toward realistic job possibilities. The ability of these instruments to adequately represent the underlying native ability needed to perform job tasks, therefore, comes into importance.

A Guide to Critiquing Vocational Evaluation Systems and Software

Vocational evaluation professionals have found it increasingly difficult to make decisions regarding the viability of various types of vocational evaluation instrumentation. This has resulted from the proliferation of systems on the market, as well as the advent of the personal computer into the work space of vocational evaluation professionals. The purpose of this section is to present a framework of questions and the rationale for the questions for the reader to make an informed decision when engaged in process of selecting systems and software. Serving as a foundation to this list of questions is McFarlane's guide to evaluate work samples (1988) which covers in greater detail the topic of selecting work samples.

1. ***What was the theoretical construct driving the development of this instrument?***

   Early development of an instrument gives insight into the purpose for which the instrument was originally intended. In this time of a fluid marketplace, instruments sometimes shift from their original and intended purpose to another one with the primary impetuous being the marketplace, rather than the actual purpose and best use of the instrument. For example, it is currently popular for systems and software to be advertised as ADA valid or useful in assessing persons with traumatic brain injury or whatever the emerging population might dictate. Insight into the development can help one understand the evolutionary process and lead to an appreciation as to why or why not it may represent a good fit for any particular situation.

2. ***Tell me about the research statistics.***

   The research statistics can provide some information as to the instrument's original intended use and provide insight into how detailed the original developers might have been in their refining of the product. The research statistics can facilitate a better understanding of whether or not the test is to be used as a norm- or criterion-referenced instrument. Reliability, validity, size and makeup of norm groups, and criteria being used as a reference are all helpful bits of information.

3. ***What validation studies have you conducted?***

   Ongoing research by the developer is one benchmark of a good product. Ask the product developer for copies of validation studies that have been conducted since the initial development.

4. ***What independent studies have been conducted? What were the results? How can I get a copy of those studies? Are any studies contained in refereed journals?***

   It is an unfortunate truth in the field of vocational evaluation, that there exists a relative paucity of published material in refereed journals regarding vocationally relevant software and vocational evaluation systems. It is a safe bet that product manufacturers are acutely aware of all of the studies which are contained within refereed journals. Ask for those references.

5. ***What are the target and norm groups? What about disability-specific accommodation?***

   Vocational evaluation systems were not specifically developed for all types of severely disabling conditions or functional limitations. One obvious trend in the field of rehabilitation in the past decade has been to the service provision for persons with more severe disabilities. Most of the systems allow for adaptation of the administration, but it is necessary to know how such adaptations might affect the norming system. A general rule-of-thumb is that the more severe the limitations are associated with disability, the less one can depend strictly on the test results, and the more one depends on observational data. The Americans with Disabilities Act requires that employment decisions being made must emphasize the essential functions of the job. For job search software, the ability to discern between essential and nonessential job tasks might be a critical factor.

6. ***Is the instrument individually- or group-administered?***

   A key question to ask, particularly if a business might require high volume vocational evaluations. Many evaluation settings simply do not allow for the labor intensive one-on-one requirement of some systems.

7. ***What is the administration/access time?***

   Some vocational aptitude batteries range in administration time from 1½ hours to 2 weeks, a key variable when planning professional time associated with administration. Many evaluators have learned, to their dismay, that use of computers in the processing of client data does not necessarily speed up the process of report writing. The computer allows for a much more thorough assimilation of the data, but may not speed up the generation of reports.

8. ***How are items scored and how long does it take?***

Are the items scored purely by the counting and recording of observational data? Or are paper-pencil tests used that are scored by using overlay templates? Some evaluation systems allow for scan cards to be used, but may be difficult for use with visually-impaired while other systems are automatically computer-scored. Some software systems allow the evaluator to include test data from virtually any source, while others use only the data built into the system.

9. ***What credentials are required to administer the system? To interpret it?***

Generally speaking, the administration and scoring of most evaluation systems can be delegated to a "technician", whereas it is preferred that a "professional" actually interpret the data, particularly when the results are being used for long-term vocational or career planning.

10. ***Do you require training? Do you provide it? Does anyone else provide the training? What is the cost of the training?***

Some of the software programs in the marketplace today are quite complex, even for the seasoned professional, while others seem to have been developed for the naive user. It is important to note that some of the distributors are reluctant to support a system when they have not provided the training. It cannot be assumed that training is built into the cost of the system (even though the system may cost in the thousands of dollars). Add-ons to original purchase orders can be difficult, if not impossible, to achieve and may result in costly time delays in implementation. Frequently, manufac-turers and distributors have an awareness of vocational evaluation professionals who will provide quality training at a competitive price.

11. ***How often is the instrument up-dated? What is the cost?***

The substance of this question has great applicability to both the software systems and to actual testing instruments. In this time of a constantly-evolving economy, the jobs change and the norm groups and criterion by which performances are measured similarly change. The learned professional needs to know what future costs, if any, can be associated with the system in order to maintain it as a state-of-the-art evaluation tool.

12. ***In what ways might developments of the database (e.g., Dictionary of Occupational Titles) affect the validity of the instrument? How do you intend to handle the changes? What arrangements are you going to make with recent purchasers?***

The Department of Labor recently released a revised 4th Edition of **The Dictionary of Occupational Titles**, one in which there were numerous and substantive changes. Not only was the data in **The Dictionary of Occupational Titles** affected, but so were the databases which coincide with this authoritative resource. For example, the formatting for the analysis of the jobs was changed to reflect greater specificity, particularly with respect to physical demands. In earlier editions of **The Dictionary of Occupational Titles** and its accompanying resources, there were only six physical demands listed; now there are twenty. Environmental conditions have been changed, as have the temperaments. The interest factors (the five dyads) have been totally eliminated, thus encouraging a greater reliance upon other interest measures, particularly those detailed in The Guide for Occupational Exploration (1993). Some recent purchasers of systems (both software and instrumentation) have expressed frustration that within a short period after purchasing their system (less than 12 months) it was, in effect, outdated. Asking these types of questions serves as a preventative to such an unfortunate set of circumstances.

13. ***What is the total cost, including shipping and handling, training, etc.? How does your cost compare to your competitors? Why is yours more or less?***

It is imperative to the process of selecting any type of system, albeit software or testing apparatus, that we follow the "doctrine of no surprises." Therefore, the informed purchaser will require an all-inclusive listing of expenses involved with the purchase of a system. It is not an uncommon occurrence for purchasers of systems to voice surprise that an extra fee was attached to ship the system to them, sometimes ranging in the hundreds of dollars.

It is entirely appropriate to query the product representatives as to not only the cost of their system, but the cost of comparable systems as well. They are in the business to market and sell systems and are acutely aware of their competitors' prices, policies and service reputation. Some systems cost more than others, some less. Usually there is a rationale explaining the differences in price.

14. ***What expendables are involved? What do they cost? Can I buy them from someone other than you? Can they legally be copied?***

Expendables associated with assessment batteries are highly variable. For some systems, the expendables are minimal, whereas others require expendables which are time-consuming and costly. In many cases, the expendables are of such a unique nature that they must be purchased from the manufacturer, which may need to be calculated into the projection for cost-per-evaluation. In others, the expendables are test answer forms which are available from the manufacturer, but you, as a purchaser of the system, are licensed to duplicate the material. Typically, for those systems which involve hardware items, the materials can be purchased from a local hardware store which defrays not only the purchase cost, but shipping, handling, and lost time between ordering and arrival.

Software is generally copy-protected or has some type of security device. Some systems have a device which is plugged into the printer port on the computer, without which the program will not run. The device must be purchased from the manufacturer as it is software-specific. Other types of software are protected in the number of installations, after which the program will no longer operate.

15. ***What is the warranty? Can I return it if I don't like it?***

The no-questions-asked return policy of WalMart is one which infrequently extends to the distribution and sales of vocational evaluation instrumentation. It is not uncommon for purchasers to be somewhat surprised at the differences between what was perceived as being advertised, and what was delivered. One way to circumvent this unpleasant situation is to request (or require) an on-site trial period, which allows the evaluator to utilize the testing apparatus or software for processing of evaluation clients. A typical time period for tryout, particularly with the more costly systems, is between 30-90 days.

The warranty accompanying the system needs to be reviewed prior to purchase. Great specificity needs to be included in the warranty which includes the details as to the time period of the warranty, those items covered under the warranty, disclaimers, and methods for handling disputes.

16. ***What are the most frequent complaints?***

Although this might sound like a touchy question to ask, it is a reasonable one. It allows you to not only obtain information about what the downside of the system might be, but it is also a time to gather some qualitative insight as to the integrity of the interaction between you, as a purchaser, and the manufacturer. All systems have a downside; complaints are part and parcel to the business, and manufacturers are acutely aware of them. Individuals asking this question may be pleasantly surprised at the quality of response.

17. ***Would you give me the names and phone numbers of 10 satisfied users?***

One sure-fire way to get candid information about a system, either software or testing systems, is to ask someone who has application-based experience with it. Most evaluation professionals are more than willing to talk to prospective purchasers in order to ensure that the purchaser makes an informed choice. Although it may seem to be a biased sampling (selecting only satisfied users), those persons are usually ones who are using the system appropriately, and can give you insightful feedback.

18. ***What is your service policy? Turnaround time?***

Most of us in the field simply do not have the luxury of planned breakdowns. If the system that you are considering purchasing is your primary (or only) testing battery or data-processing package, then when the system goes down (and occasionally things happen), the whole operation comes to a screeching halt. It is important to know your options should this unfortunate event occur.

19. ***Will you stand behind what the sales rep tells me?***

Sales representatives not only sell the product that you are considering, but often carry other products as well. The depth of information that they have about a product may not be of sufficient nature to accurately respond to your questions. In fact, if the sales representative is not a professional evaluator, it is a safe assumption that your insightful questions might better be directed to the manufacturer. It is an unfortunate occurrence when there is a disparity between what the sales representative represents to you, and what is actually delivered.

20. ***Will you put it in writing?***

Most of the systems and software packages are of sufficient cost that a contract is not at all unreasonable. We, as vocational evaluators, are acutely aware that if it's not in writing, it doesn't exist. This axiom applies to the purchase of all types of vocational evaluation systems, and should be included in your dealings with product manufacturers.

Conclusion

Vocational evaluation professionals have a unique and well-developed skill of obtaining and assimilating data and then identifying an individual's vocational assets and limitations. This information is then taken to make specific and consequential recommendations to serve the needs of the person being evaluated. It is the authors hope that evaluators will use this transferrable skill to facilitate the process of selecting those tools so necessary in the profession.

References

Crow, S.H. (Ed.) (1973), Atlanta Synthesizing Conference. (Unpublished Document). Vocational Evaluation and Work Adjustment Association.

Farr, J.M. (Ed.). (1993). The complete guide for occupational exploration. Indianapolis: Jist Works.

Krumboltz, S.P. (1979). Social Learning and Career Decision-Making. Cranston, R.I.: Carroll Press.

McDaniel, R.S. (1986). Vocational evaluation: What direction. In R. Fry (Ed.). Second National Forum on Issues in Vocational Assessment. WI: Univ. of Wisconsin Materials Development Center.

McFarlane, F. R. (1988). Consumer's guide to evaluate work samples and work sample systems. (Vanguard Series in Rehabilitation). Athens, Ga: Elliott & Fitzpatrick.

Nadolsky, J.M. (1973). Vocational Evaluation of the Culturally Disadvantaged. Auburn, AL.: Auburn University Duplicating Services.

Nadolsky, J.M. (1971). Development of a Model for Vocational Evaluation of the Disadvantaged. Auburn, AL: Auburn University Duplicatging Services.

U.S. Department of Labor. (1991). Dictionary of occupational titles (4th Edition, Revised 1991). Washington DC: Author.

WORK EVALUATION: SOCIOCULTURAL FACTORS AND STAFF TRAINING IMPLICATIONS

MARILYN EKDAHL RAVICZ, PH.D.

Abstract

The focus of this paper is improving the skills of vocational/work evaluators and support staff personnel when working with persons of multi-cultural or varied ethnic backgrounds. To this end, such concepts as culture, status and role are discussed and applied to a consideration of work/vocational evaluation from three points of view: the physical environment; the social environment and assessment activities as process. The primary focus is directed to the assessment situation as social environment and process. Next, participant observation is introduced and defined as concept and methodology. It is suggested participant observation may afford a useful tool for increasing the skill and sensitivity of vocational evaluators and staff members. The last section lists seven suggested in-house training modules which entail the use of participant observation and awareness practices in order to enhance skill when working in multi-cultural testing situations.

This paper does not consider the nature or validity of testing within a multi-ethnic client population, but rather focuses on improving the skills of work evaluators and their supportive staff members. To this end, the work evaluation facility, the testing process and the participants themselves will be considered from a sociocultural standpoint. For more than the last decade and foreseeable future, participants in work evaluation increasingly represent a spectrum of ethnic origins and socioeconomic classes. A range of educational achievement and work histories among clients also increases the complexity of the assessment process, inclusive of interpreting the results of the tests and work samples administered. However, as suggested, test validity is not our immediate concern, but rather the actual conduct of testing and documentation is of primary interest.

First, some basic concepts which function as keys to increased cross-cultural understanding will be addressed. Thereafter, three sets of variables inherent in any work evaluation will be discussed, since these function as a bridge to the purpose expressed in the final section where a basic methodological issue is addressed. The final section consists of a brief listing of specific in-house training procedures which are suggested will enhance evaluator and staff personnel understanding and skill when working with participants of diverse ethnocultural backgrounds.

Persons from different ethnic backgrounds function within and define their worlds through varied cultural patterns. This is because culture is learned. Culture can be defined as the sum of acquired or learned knowledge people use to generate social behavior and interpret experience. Because of culture, behavior and experience are largely products of symbolic meaning systems. There are other explanations for behavior such as biological, psychological, economic and so forth; however, for our purposes, the cultural explanation is of most relevance. As a shorthand format, one can think of culture as cognitive orientations or sets of subjective expectations which structure perception and understanding of objects, other persons and interactional systems. In this sense, culture is not directly or empirically observable. It is rather the rules or sets of maps and plans which structure thinking and actions.

Since no one is born with culture or pre-ordained sets of expectations defining ways of acting, these must be acquired through learning, a combination of child-rearing, educational and interactional experiences. Culture consists, therefore, of learned patterns, subjectively experienced as expectations. We expect people to act, communicate and conduct their affairs in understandable ways if we share their culture. If our expectations are not met, it may be we are of differing ethnocultural backgrounds. As evaluators, we may be unaware of our unsympathetic responses to persons of other cultural groups, since we too are captives of our own learning histories. Others did not perhaps share our commonality of life history. We may only be aware of these differences when our expectations are not met through an experience which may have, for some persons, negative or uncomfortable feelings. Before we proceed, it is therefore important to remember culturally structured perceptions are two way streets. Persons of other ethnocultural groups may also find we violate their patterned expectations so that they feel uncomfortable and anxious.

Work evaluations are charged to obtain as much useful information about each client as is available through testing. This is only possible if clients' acceptance of and performance during testing is as free of problems as possible. Since we are powerless to change the perception of others, or to enhance or sensitize their awareness of evaluators and the assessment environment, we are ipso facto only able to improve ourselves. In short, there is an art to evaluation which exceeds by-the-book procedures mandated by a narrow perception of what work evaluation entails. This area is important for working with other ethnocultural evaluees.

Attention will now turn to a consideration of work evaluation as a sociocultural process. There are valid reasons for considering the work evaluation facility and its testing activities in terms of a sociocultural unit and process. Since we normally present work evaluation in terms of a simulated work situation, this concept can be further broken down into three domains of focus and attention: the physical environment; the social environment; and assessment activities as process. This separation is for analytic purposes only and does not exist in the "real world". We shall turn to a consideration of these areas.

As physical environment, evaluation facilities normally consist of: a large work-room; one or more conference rooms; offices for evaluators and staff; storerooms or areas for materials and tools; and perhaps worker/client and staff lounges, restrooms and so forth. Minimal consideration of this domain is included in this study. This is because although the physical structure of the facility may be to some extent novel to persons from other cultures, no single element is unduly unexpected or alien to those who have lived or been employed in this country. A collection of rooms designated for various functions does not comprise a critical factor, although the placement of work stations, materials and tools may violate culturally defined patterns with respect to proxemics.

The second domain for consideration, the social environment, is more important for our consideration. This domain is also more interactively linked with the third domain or evaluation as process. When considering work evaluation as social enterprise, it is important to recall the comments and concepts previously made defining cultural patterns.

As a social environment, work evaluation shares those characteristics which define any social unit. That is, specific roles and statuses appertain to persons co-participating in the evaluation location and enterprise. Personnel minimally include: supervisors/evaluators and staff 'lead persons'; workers/clients or co-workers of various ages, statuses and gender. In addition to these positions or statuses, a set of activities or roles is assigned to each category of persons. While some of these roles are understandable across ethnic and class groups, others may be unexpected and therefore potentially misunderstood or anxiety-provoking. More specifically, workers work or produce, ie., they are 'tested' or rewarded according to the degree of their success in goal-related activities. Supervisors/evaluators lead, instruct, allocate tasks, and perform evaluative or quality control judgments regarding the conduct and products of the workers/clients. Clerical/staff personnel assist, maintain records and paperwork. Technicians support and assist supervisors/ evaluators much as do lead persons or foremen. To this extent, the sociocultural structural elements of the work evaluation enterprise are not entirely unfamiliar or alien at least to persons who have been employed in this or other countries.

In spite of the aforementioned similarities, it is precisely in this domain where problems of misperception and misunderstanding can and often do occur among ethnically distinct clients. These misunderstandings will eventually delimit and diminish the goals of work evaluation. Recall that learned or acquired cultural patterns are subjectively experienced as expectations. Since these are learned through collective or shared experiences usually during childhood, they are normally not shared or linked with staff members and clients alike. It is here many understandings are generated. Diverse cultural groups, differing ages, sexual and personal histories will all operate with unique cognitive maps or expectations as to how work personnel and work-related activities are properly conducted or understood. Thus, it is precisely in this domain sensitization and learning should be directed among evaluation staff personnel. Improved staff understanding will facilitate comfort, relaxation and increased willingness to participate with task-focus and motivation on the part of clients or evaluees.

Under this same domain; however, it is also important to realize work evaluation may be perceptually confused minimally with two other spheres of importance: the medical and the vocationally-oriented. Specifically, some confusion may result from the fact evaluators address or focus on questions of physical tolerance, functional capacities, range of motion and related pain, much in the manner of medical therapeutic personnel. On the other hand, evaluators also test, comment on and address factors related to future vocational planning and occupational goals. In truth, work evaluation occupies a critical and watershed location between these spheres of interest, in spite of its being a unique, independent and non-permeable process in terms of influence or pressure in interpretation of test results. Empirical observations comprise the urgrund or underpinning of work evaluation, although it may be difficult to convey this factor to either participants or referral agents on some occasions. For our purposes, this empirical orientation will serve as an important component of the methodology for learning which will be proposed in a subsequent section of this paper.

To carry these comments a step further, we shall turn to a consideration of the work evaluation enterprise as not only a social unit loosely affiliated on the basis of a daily set of work or goal-oriented activities, it entails a process. To this area of consideration, work evaluation as a domain of process, many of the in-house training suggestions will ultimately be directed.

This third category, the actual process of evaluation or testing and documentation, is also complex. On the other hand, testing and evaluation is presented as a work-related process. On the other hand, evaluation consists of tests and performance-oriented assessments not apparently related to employment as much as they are reminiscent of school. This may be especially true for those ethnic groups whose only experience of paper/pencil tests is limited to a school environment. Witness the number of times Hispanic clients, for example, refer to evaluation as "school" and evaluators as "teachers", no matter how often they are informed to the contrary. It is important to learn to understand these cognitive orientations so a corrective interaction with clients can be undertaken.

The process of evaluation, therefore is subjectively perceived and experienced by evaluees as a challenge, and as a work/performance-oriented process with expectations of outcomes which will be graded. This is doubly important inasmuch as evaluation results are directly linked to the selection or possibility of appropriate vocational goals. Fear of potential failure, the presence of pain and/or other disability-related factors all converge to shape the potential anxiety experienced by some clients, especially those from other ethnocultural groups. Do we remember this every Monday morning?

Within the general rubric of process, there obtains a daily rhythm of enterprises, activities and testing. That is, there is a beginning, middle and end of each day, as well as of the entire evaluation process. There are arrivals, rest breaks, lunches and so forth. This means observations made on the work floor can be augmented by or linked to observations made during breaks or when other than testing activities are entailed. Such monitoring should not be interruptive or curtail the sense of independence and rest among clients; however, on the other hand, one can usually find a way occasionally to stop by the client lounge to interact, joke a little or share oneself as a person and not only a supervisor/evaluator. This offers the opportunity for observing informal behavior on the parts of the clients as well.

Other process points of importance include the initial Orientation Meeting prior to testing, as well as the final Exit Conference when the results of evaluation are reviewed. Each of these requires planning and sensitivity as to how information is shared, as well as how to structure the presentation of testing results. To this extent, Orientation and Exit Conferences become somewhat ritualized in that a phasing in and out of a special status and role is entailed. Again, work evaluation is a watershed, and the testing process and results shared are highly important to each client. They must be communicated in understandable and coherent language, as well as in a culturally sensitive and aware manner to be meaningful.

During testing, the presentation of assessments and work samples must be clear, coherent, objective yet sensitive during instruction and demonstrational modes. The rhythm of speech and manner of posture or body language and proxemics condition the results of testing if they affect the motivation and attention of evaluees. Instructions are formalized in order to help maintain test validity; however, much in the conduct of testing is a personal expression colored by the manner in which each evaluator approaches peers and workers.

A final factor which characterizes the evaluation as process and its interface with the social environment includes what are normally called "worker characteristics." Since work evaluation is regarded as a simulated work situation, punctuality, consistent attendance, appropriate personal presentation and overall performance comprise components which should receive not only attention but sensitive consideration. While the burden of establishing and reinforcing what is appropriate and acceptable for positive "worker characteristics" should be established and communicated during the Orientation Meeting, it is important to observe and ultimately comment on those characteristics demonstrated by clients so vocational counselors can address deficiencies and enforce positive habits while preparing individuals for a future occupational goal. Routinization while in evaluation may assist the client to initiate the development of positive worker habits.

Thus far, this paper has touched on basic concepts defining culture, and how these impinge on or relate to the three domains of work evaluation. These all include some more critical areas or processual points where evaluator and staff sensitization to other ethnic and cultural groups is important and perhaps critical. These areas, along with others which could be addressed, are also those points where we can improve and enhance our abilities to deal with varied groups and cultural issues. To delineate guidelines for interacting with specific ethnic groups would require considerable research and several volumes of information. Thus, what is offered here are some suggestions as to how in-house training activities can enhance cultural sensitization.

To accomplish the stated goals, one additional concept will be introduced. This concept functions not only as a bridge to the final section of this paper, but is important in that it introduces a methodology basic to the proposed training procedures appended. This is both concept and at the same time a methodological practice called participant observation.

Participant observation is a basic methodology employed by social and cultural anthropologists. It is the field method through which anthropologists attempt to avoid ethnocentrism while obtaining the depth and quality of information needed from a social group. One of the points made consistently through this paper is that evaluators also wish to avoid ethnocentrism when working with varied ethnocultural groups. Ethnocentrism consists of an odd mixture of beliefs and feelings that one's way of life and behavior is desirable or superior to that of others. No one entirely escapes this pitfall, but one can become more skillful in this arena through a new kind of self-awareness. The obverse of ethnocentrism entails a loss of objectivity which is also to be avoided so that the efficacy of testing is maintained while the best form of potential client advocacy emerges. Our best efforts as service-oriented professionals may be to consider our work evaluation enterprise as advocacy-related, but conducted through a process which eventuates in "truth" or realistic data which may prove useful. In this approach, evaluators and anthropologists share similar enterprises and goals. Therefore, this paper suggests some of the same field methodology may be productively employed.

Essentially then, participant observation is a method or strategy for temporarily sharing the physical environment and group processes of a society which may be alien or ethnically distinct from that of the investigator. One element is detached observation, the maintenance of emotional detachment or neutrality which supports viewing or making observations which allow objective analysis on the part of the investigator/observer. This part of participant observation is based on the model of scientific research employed by physical scientists. However, the second component of participant observation emphasizes the participation process. This aspect involves some element of personal involvement which allows the investigator to some extent to view the world through the cognitive orientations or ways of thinking of others. The participation aspect entails some degree of involvement through the ability to suspend one's own perspectives and values which structure patterned expectations. This process requires practice, but also allows the investigator (or evaluator) to be sensitive to the reactions of others, while distinguishing between personal interpretations and sheer objective reporting.

Since much of one's cultural understanding is tacit or outside of consciousness, only training and increasing one's awareness of implicit biases by self-questioning can help. Oddly enough, the detached observation portion of participant observation can help in another way. By describing some event or reaction objectively, we enhance or improve our ability to focus and be attentive to details. Perceiving events, behaviors and reactions of others entails a notational/descriptive posture, but also an interactional component. In sum, this practice is posited as an important method or strategy for improving the quality of our services to varied ethnic groups. To accomplish our goal of enhanced services to varied sociocultural groups, we need to rely on informing and training ourselves. It is not only important to acquire this information, but also to train or practice specific modes of thinking and acting which to some degree habituate us not simply to react automatically, but to gain some sense of distance from our own immediate reactions. This distance will allow us to gain new and more objective reaction patterns which support objectivity through increased shared understanding. The following suggestions include a few concrete in-house training modules, among others which could be developed, which will help structure and exercise the positive aspects of participant observation posited to be helpful for evaluation facility personnel.

MODULE ONE: Establish a series of in-house training sessions which are first directed to a discussion of some of the issues and concepts noted in this paper. It is unlikely many staff members have actually thought about these concepts or participant observation, especially as they relate to the work evaluation process or their roles as evaluators and technicians.

MODULE TWO: During in-service training, employ role-playing as a productive mode of presenting and acting-out specific cases or events which have cross cultural implications. Discussion of alternative modes of engaging in work floor management can be tried and reviewed in an impersonal manner without placing staff members 'on the spot'. It is usually better to focus on completed cases rather than on current ones which may confuse staff reactions to present clients. Keep current case issues marked for future discussion until more expertise and habituation are acquired.

MODULE THREE: Notating empirical observations is a skill which must be practiced under guidance with respect to cross-cultural sensitization. Again, role play entails productive possibilities here. Non-racist/sexist or any potentially ethnically pejorative terminology should be reviewed. Sometimes casual remarks when written in case files become terms which can and do excite negative feelings.

MODULE FOUR: Practice in observation and notation can be enhanced through "Friday afternoon" projects. Projects may be assigned which take staff members out of their facility (perhaps to a nearby supermarket or other public location) where they are charged to make observations and then to describe these objectively as a series of actions and reactions in adequate detail to rekindle concrete memories. Attention to proxemics or 'body language' is improved through this type of practice. Estranging oneself from the familiar enhances skill in objective observation with decreased self-consciousness.

MODULE FIVE: Instruct and guide staff how to notate 'different', or what they may perceive to be hostile or unexpected responses along with their contexts during evaluation. This practice will help desensitize staff members. It also helps to consider these reactions with alternative explanations from the client's perspective for better understanding, as well as to disassociate hostile/frustrated responses from their own persons. Repeating this process tends to extricate explosive situations from an emotional response pattern so that staff members can respond in a more patient, understanding and objective manner. Among youthful or 'trainee' personnel, clients' impatience or negative reactions tend to engender a like response if they think of the situation as a personal confrontation. This type of response must be 'trained out', since staff members all come to work in their own deeply imbedded and oftentimes subtle prejudices. In-service training shared by all levels of staff personnel also allows and supports a more open attitude of acceptance, ie., co-participants in training more easily not only intellectualize but more openly consider alternative ways to respond to negative situations.

MODULE SIX: In-service training should also focus on increasing staff members' ability to become aware of the complexity of a given set of behaviors, such as instructing and executing a work sample. This is not meant to overwhelm staff members, but to sensitize them, for example, to understand the importance of notations, interaction patterns during instruction and so forth. For example, cultures propagate different attitudes and degrees of acceptance for working with one's hands, with tools or manual-labor appearing tasks.

MODULE SEVEN: If, as is normally the case, staff members work more often than not with clients from one or two different ethnic groups, then training should include information about the culture and values of those ethnic groups. Through knowledge, expectations of response patterns will be enhanced and better directed. For example, informing staff members of accepted and appreciated proxemic patterns, salutations and so forth will set clients at ease. For some ethnic groups, a friendly handshake or hand on the shoulder can be reassuring and expected. For others, these interactions with relative strangers are anathema. Staff should also be expected minimally to learn terms of greeting from frequently used languages, inclusive of courtesy expressions such as 'please', 'thank you' and 'someone will help you in a minute.' If in-house personnel do not feel adequately prepared to inform others in these areas, contact trained personnel such as Cultural Anthropologists from nearby universities, or others who have studied the content or patterns of these frequently represented groups. These persons should have studied participant observation however. Asking for assistance from a peer representative of the ethnic group is not necessarily helpful unless that individual has studied or been trained to look at his/her own culture in an objective manner, ie., see Body Ritual Among the Nacirema' for an excellent example of this point.

In sum, while many other modules for in-house training could be generated based on the concepts and methodology briefly outlined here, the aforementioned suffice. These practices challenge work evaluators and staff personnel to consider self-training in order to enhance their effectiveness when working in a multi-cultural world of work.

---

1. Miner, Horace (1956). Body Ritual Among the Nacirema, American Anthropologist, 58(3), 503-507.

Marilyn Ekdahl Ravicz, Ph.D.
The Work Evaluation Company, Inc.
5400 Van Nuys Blvd., Suite 501
Van Nuys, CA 91401

BUILDING CONSENSUS: THE INTERDISCIPLINARY COUNCIL ON VOCATIONAL EVALUATION AND ASSESSMENT

FRAN G. SMITH, Ed.S.,C.V.E.
DANA LEE SCHUSTER, M.S.,C.V.E.

Abstract

On April 15, 1992, the Interdisciplinary Council on Vocational Evaluation and Assessment was formalized with nine core and one ad-hoc member organizations. In addition to making a two year committment to participation, three major projects were undertaken: the development of an information brochure related to the council, the drafting of a position statement, and the collaborative program planning of the Sixth National Forum on Issues in Vocational Assessment. This paper will outline the history and development of the council, report on the progress of the projects undertaken, and review the questions and discussion of Forum participants.

There has been increasing awarenesss over the past decade of the importance for professional advocacy and visibility among those who practice vocational evaluation. Four years ago at a Commission on Certification of Vocational Evaluation and Work Adjustment Association (CCWAVES) sponsored exam item writing meeting in Chicago, IL; practitioners from across the country began a dialogue regarding the possibilities of forming a national advisory council on issues in vocational evaluation and assessment. The vision was that this type of council might provide an opportunity to share common concerns, increase professional visibility, shape the direction of the profession and present a stronger force in evaluation and assessment policy development.

The best way to address these needs appeared to be in uniting forces with other organizations which shared common concerns in areas of vocational evaluation and assessment. The formation of such a national group could provide a more unified voice that solely represented these shared interests and concerns. As these ideas continued to be developed, the importance of a cross-disciplinary focus was realized. As Nolte (1992) notes, the changes in service delivery that have shaped the face of vocational assessment services increases the multi-purposeful uses of the technique in many situations.

Over the past four years these ideas have been transformed from a dream to a reality. Today the development of this Interdisciplinary Council represents the beginnings of building consensus across ten national professional associations. The Council is designed to provide an advisory entity; not a newly formed, separate organization. The primary mission is to represent concerns, assist in shaping policy and support professional issues that directly impact the professional services of vocational evaluation and assessment.

During the Sixth National Forum on Issues in Vocational Assessment, a panel of representatives from these ten associations presented a synopsis of the ongoing development of the Interdisciplinary Council. The panelists included: Ms. Sara Hertfelder, American Occupational Therapy Association (AOTA); Dr. Paul Power, American Rehabilitation Counseling Association (ARCA); Jeff Wilson, CEC - Council for Educational Diagnostic Services (CEDS); Dr. Patricia Sitlington, Commission on Certification of Work Adjustment and Vocational Evaluation Specialists (CCWAVES); Dr. Carrie Rothenbacher, CEC - Division on Career Development (DCD); Dr. Richard Lombard and Dr. Debra Neubert, National Association of Vocational Assessment in Education (NAVAE); Pamela Leconte, National Association of Vocational Special Needs Personnel (NAVESNP); Fran Smith and Dana Schuster, The Vocational Evaluation and Work Adjustment Association (VEWAA); Dr. Peggy Hicks, National Association of School Psychologists (NASP); and Dr. Virgil Bob May, National Association of Disability Evaluating Professionals (NADEP).

Historical Overview

In 1989, the idea for a national advisory council was introduced at the Fourth National Issues Forum, in a paper presentation entitled "Professional Advocacy in Vocational Evaluation and Assessment" (Bowers, Schuster and Smith, 1989). The authors noted the evolution of vocational assessment into a variety of disciplines in recent years including rehabilitation, private corporations, schools, insurance companies, industry and hospitals. As noted, the development of a nationally-based advisory group could provide for communication, consistency and collaboration across disciplines. The authors approached the VEWAA Executive Board and received support for the initiation of a task force that would begin the journey in developing a national advisory council.

During the Fourth Issues Forum, thirteen national organizations were invited to attend a meeting for discussion of existing need, shared interests and possibilities for such a council. Of these thirteen, the following sent representatives:

- National Association of Vocational Assessment in Education
- National Association of Vocational Special Needs Personnel
- Association of Persons with Severe Handicaps
- American Occupational Therapy Association
- Division on Career Development
- American Rehabilitation Counseling Association
- Association for Persons in Supported Employment
- The Vocational Evaluation and Work Adjustment Association
- The Commission on Certification of Vocational Evaluation and Work Adjustment Specialists

Those electing at that time not to send a representative included the: American Vocational Association, Council for Exceptional Children, National Association of School Psychologists, American Physical Therapy Association and National Association of Rehabilitation Professionals in the Private Sector.

Over the course of 1990, on-going research and follow-up was conducted in the development of this task force. Countless telephone calls and written correspondence were logged in attempts to clarify organization representatives and contacts. Often several levels of contacts were made, locating present and past-presidents, executive directors and finally a "designee" to serve as a representative for the area of vocational assessment.

In 1991, the second official meeting of the task force convened in Kansas City, MO during the International Conference of the Division on Career Development. This resulted in a more formal development including the determination of an official name, mission statement and goals. A steering committee was also established to oversee the national development of this group.

Formation of a Mission Statement and Goals

In Kansas City, representatives debated the merits of appropriate terminology, direction and membership to this group. Through hours of discussion, a task force begin to take shape into a national council. The name

Interdisciplinary Council on Vocational Evaluation/ Assessment was chosen to represent the cross-disciplinary focus. A mission statement and nine goals presented the collaborative efforts and agreed upon consensus as a direction for the future. As stated in the mission statement, the Interdisciplinary Council existed "*to promote, through a unified voice, the responsible practice of vocational assessment and evaluation by encouraging advocacy, professional standards, communication, leadership and policy development, all of which enhance the overall provision of best practice*". To move towards fulfillment of this mission the following goals were identified:

- *provide an avenue for linkages among disciplines*
- *promote the development of common language and definitions, recognizing diversity among disciplines*
- *promote significant consumer participation in the development and implementation of vocational evaluation/assessment activities and practice*
- *promote professional standards of practice*
- *provide a unified voice regarding certification, policy development and legislation*
- *provide a forum to discuss key concerns in the field and share information across disciplines*
- *encourage the establishment of unified quality assurance in practice and outcome*
- *promote public education and advocacy for vocational evaluation/ assessment*
- *advocate for support and funding of education*

Representatives were given the charge to obtain official confirmation of their organizations committment to the Council. Notification was requested for a two year committment and an official representative. In addition, the group targeted an action item for the upcoming year: to collaborate with the VEWAA Forum Coordinator to provide input into program planning for the Sixth National Forum.

Formalization of The Interdisciplinary Council

On April 15th, 1992, the Interdisciplinary Council on Vocational Evaluation/ Assessment met in conjunction with the Council for Exceptional Children's conference in Baltimore, MD. Nine core and one ad-hoc member organizations formally united as an official council. Consensus ensued as representatives worked diligently to develop a theme, general session topics and paper presentation strands for the Sixth National Issues Forum. Many of the representatives agreed to offer support as presenters and moderators of general sessions. An informational network was established to provide a vehicle across disciplines that could channel information to potential participants at the Forum.

In addition, a subcommittee was formed to begin the development of a position paper that reflected the philosophies of this Council related to vocational assessment. Dr. Richard Lombard agreed to spearhead this group and included the following committee members: Dr. Patricia Sitlington, DCD; Dr. Carrie Rothenbacher, DCD; Dr. Debra Neubert, NAVAE, Pamela Leconte, NAVESNP, Fran Smith, VEWAA and Dr. Peggy Hicks, NASP. Sara Hertfelder, AOTA volunteered to organize the development of a brochure detailing the mission statement, goals, organizations and steering committee members of the Council.

Since April, this exciting collaborative venture has resulted in the completion of several major projects. The brochure was completed during the summer and has been sent to all Council members for duplication and distribution. Eighteen practitioners from throughout the United States have written individual letters of support. The title of the Sixth Issues Forum, Access to Productivity: Partnerships in Planning, reflects the major spirit of collaboration that this group has attempted to convey in assisting with the overall program planning.

Dr. Richard Lombard and his committee completed the draft position paper regarding the Council's stance towards vocational evaluation and assessment. This draft has been distributed to all Council members and interested Forum participants. This is an "in-process" document with practitioner and organizational input encouraged prior to a final revision. As noted, Dr. Lombard summarized the position papers key points. The paper begins with the mission statement, goals and listing of represented organizations. However the foundation of this document is conveyed in two major sections: Guiding Principles and Professional Roles/Responsibilities.

The "Draft" Position Paper

The overall principle forming the foundation of vocational evaluation/assessment acknowledges that all human assessment should be holistic and humanistic. A holistic approach to vocational evaluation/assessment encompasses at least three dimensions which include (a) all relevant attributes of the individual, (b) his/her existing or potential environments (ecologies), and (c) the compatibility or discrepancies between the individual and the environments. A humanistic approach to vocational evaluation/assessment requires the processes that are designed and implemented to benefit the individual served with emphasis on individual potential rather than disabilities. In addition, the input from consumers should be a fundamental part of the evaluation/assessment process.

Guiding Principles

1. **A variety of methods, tools and approaches should be used to provide accurate vocational evaluation/assessments.** *A fundamental underpinning of this principle is that vocational evaluation and assessment should ultimately characterize what makes the individual unique.*

2. **Vocational evaluation/assessment information should be verified by using different methods, tools and approaches.** *This cross validation can be achieved by using observational techniques, individual self reports, and other approaches such as surveys, inventories or structural interviews.*

3. **Behavioral observation is essential in any vocational assessment process.** *Employers often report, for example, that inappropriate behavior is a dominant factor for individuals with disabilities losing their job. For this and other reasons, behavioral observation needs to occur in multiple environments: it can be formal or informal, conducted by a number of people, and should be documented and presented in an objective, non-biased manner.*

4. **Vocational evaluation/assessment may be an on-going and developmental process in career development.** *It is clear that some individuals may need intensive evaluation at a critical time of their life. It is equally clear, that some individuals, including those with disabilities, may need ongoing evaluation to assist them in making the transition through critical periods or junctures that have proven to be problematic.*

5. **Vocational evaluation/assessment should be an integral part of a larger service delivery system.** *If vocational evaluation and assessment data is essential for planning needed services, resources and support, which it is, then even the broadest of service delivery systems, such as transition, cannot occur meaningfully unless individual attributes have been captured.*

6. **Vocational evaluation/assessment requires a collaborative approach to data collection and decision making.** *This principle underscores the need for professionals and consumers to use information generated through evaluation and assessment approaches. The functionality of vocational evaluation and assessment should be judged according to its use by professionals and consumers. Interdisciplinary vocational evaluation and assessment procedures will increase the likelihood that data is translated into meaningful and useable formats.*

7. **Vocational evaluation/assessment shall be current, valid and relevant.** *Vocational evaluation/assessment approaches need to be grounded in career, vocational and work contexts. Some approaches which are valid for adults, for example, may not be valid for school aged youth. The validity of the vocational evaluation and assessment approach, shall be judged according to the context in which it is being used.*

Professional Roles

We believe that two types of individuals should be involved in the provision of the vocational evaluation/assessment process--vocational evaluation/assessment specialists and those working with the individual in instruction/service delivery at each specific stage of vocational development. The first type of

professional would include those with indepth training in vocational evaluation/assessment, whose main responsibility involves the vocational evaluation/assessment process. The second type of professional would include instructional personnel in elementary/secondary school and post-secondary educational programs, school based and adult support personnel such as guidance counselors and school psychologists. The second type also includes rehabilitation personnel, both public and private, such as counselors, technologists, occupational and physical therapists, supported employment specialists, and work adjustment professionals. These individuals can play an important role as members of an interdisciplinary evaluation/assessment team by contributing insights and perspectives gained through their unique experiences with the student/client.

The roles of each type of professional would require different certification and preparation. We feel that those serving as vocational evaluation/assessment specialists should meet criteria established by the Commission on Certification of Work Adjustment and Vocational Evaluation Specialists (CCWAVES). We recommend that those fulfilling the second role meet the certification criteria of their specific service area.

The Interdisciplinary Council on Vocational Evaluation/Assessment strongly recommends however, that all individuals involved in vocational evaluation/assessment should demonstrate competency or successful completion of training in competencies related to each of the principles identified earlier in this document. They include the following:

1. The ability to select, adopt, and/or develop methods, and approaches which are useful in determining an individual's attributes, abilities and needs.

2. The ability to utilize alternative methods and approaches which can be used to cross validate information generated from other assessment sources.

3. The ability to conduct formal and/or informal behavioral observation strategies which can be integrated in a variety of settings.

4. The ability to collect and interpret ongoing data that can be utilized to promote successful transition through critical junctures of the individual's career development.

5. The ability to interpret vocational evaluation/assessment data in a manner that contributes to the total service delivery system. Vocational evaluation/assessment team members must be capable of synthesizing and reporting formal and informal data in a manner that promotes appropriate planning, appropriate goal setting, and coordination of needed support services.

6. The ability to function as an effective participant on an interdisciplinary team.

7. The ability to select, implement and integrate evaluation/assessment approaches which are current, valid, reliable, and grounded in career, vocational and work contexts.

The Interdisciplinary Council on Vocational Evaluation/Assessment reiterates its committment to work with all of its member organizations to implement the guiding principles outlined in this paper within and across all disciplines.

The content of this presented position document continues to be reviewed and at the writing of this paper is only presented in a draft format.

Audience Reaction, Comment and Discussion

A number of issues were raised by audience participants for discussion on the position paper, as well as more general directions and functions for the Interdisciplinary Council. The need for consumer committment to and enthusiasm for vocational evaluation/assessment as an essential service was suggested as a critical component in the accomplishment of future Council goals.

Additional comments noted that currently there are no established "system" consequences if an individual does not participate in a vocational evaluation/assessment. Various concerns were voiced relative to university training for practitioners; in that current training programs may not be providing the breadth of knowledge or specific coursework that is critical to effective evaluation/assessment service provision.

The current existence, or future development, of distance learning opportunities was questioned for practitioners in more desolate areas, without direct access to an evaluation/assessment educational program. The expertise and knowledge base of individual assessment practitioners varies, giving rise to voiced suggestions for licensure/certification, clearer terminology and standards.

In summation, highlights from these comments included a need for:

- getting consumers and parents enthused and committed to vocational evaluation/assessment
- the position paper to be more than definitions of things that are inherent in social services
- consequences if someone does not receive a vocational evaluation/assessment
- national licensure and certification
- common language and standards
- education institutions to be lobbied regarding the courses, specific content and breadth of knowledge
- the availability of distance learning programs
- national networking

Conclusions

The perceived possibilities for this collaborative association are hopefully just beginning. As an organization, VEWAA represents the voice of some 1635 members nationwide. However, by joining forces through participation in the Interdisciplinary Council, the united voice represents approximately 72,800 members.

When presenting issues and concerns to a policy maker in Washington, D.C.,large numbers are impressive and often attract attention. However, a lobbying position is established when these numbers are coupled with organized efforts that seek to promote standards in the profession. The opportunities to gain knowledge and insight into effective assessment strategies and to have impact on shaping policy which can arise from an Interdisciplinary Council, moves the professions of vocational evaluation and assessment into a pro-active future.

References

Bowers, C., Schuster, D. and Smith, F. (1989). Professional Advocacy in Vocational Evaluation and Assessment. In R.R. Fry (Ed.), Fourth National Forum on Issues in Vocational Assessment, pp. 33-39. Menomonie, WI: Materials Development Center, University of Wisconsin-Stout.

Nolte, D. (1992). Interdisciplinary Approach to Vocational Assesment: Great Opportunities for the Profession and VEWAA. Vocational Evaluation and Work Adjustment Bulletin, Vol. 25 (1), pp.3-4.

Authors

Fran G. Smith
Chair
Interdisciplinary Council on Vocational Evaluation/ Assessment
1204 S. Alfred St. 222D
Alexandria, VA 22314

Dana Lee Schuster
Steering Committee Member
Interdisciplinary Council on Vocational Evaluation/ Assessment
2025 Gateway Place, Ste. 140
San Jose, CA 95110

THE ROLE OF LANGUAGE AND CULTURE IN VOCATIONAL ASSESSMENT: FACTORS TO CONSIDER WHEN REVIEWING ASSESSMENT TOOLS

NORMA L. COLYER, M.S., CVE, CRC
FRAN G. SMITH, Ed.S., CVE

Abstract

Recent trends in immigration pose new challenges for vocational evaluation and rehabilitation service providers. The number of individuals who are from diverse cultural backgrounds, and whose knowledge of English is limited will continue to increase well into the next century. When assessing individuals from different cultures, it is essential that language skills and cultural background be taken into consideration in order to minimize bias. Culture affects an individual's approach to learning. Therefore, the evaluator should consider learning style as influenced by culture and social interactions that are dictated by their particular value system and background influences. During evaluation, it is the more subtle factors that can be culturally biased and often have an impact upon assessment results. Translations offer alternatives, but these again present their own particular difficulties. It is particularly important to determine that individuals being tested have the prerequisite behaviors required for test taking, and that test items also reflect their cultural background.

When selecting tests for individuals who are from different cultures, it is important to take into consideration that persons's worldview, socio-economic status and language proficiency as well as experience with test taking. Appropriateness of assessment instruments should be determined on referral information and a detailed initial interview designed to determine cultural variants and linguistic background. When ignored, these factors can create barriers which may prevent optimum performance.

Results of testing always need to be critically interpreted, but particularly when these are administered to heterogeneous groups at various stages of acculturation and with differing levels of English proficiency. Acculturation is defined as the process in which an immigrant selectively adapts to the dominant or majority group. Acculturation is a dynamic process whereby the immigrant selectively adopts the value system and cultural practices of the new culture. This involves a process of both integrating with and differentiating from the dominant group (Berry, 1980).

Regarding test fairness, Ascher (1991) and Fremer, et al. (1989) refer to the following guidelines issued by The American Educational Research Association, the American Psychological Association and the National Council on Measurements in Education in their "Standards for Educational and Psychological Testing," published in 1985:

- English Language proficiency should be determined by more than multiple choice paper-and-pencil tests.
- The reliability and validity of tests may be undermined by language differences.
- Administering an English language test to non-English proficient students will assess only proficiency in English
  language not in a subject.
- Translating tests into a student's native language may subvert the tests' reliability and validity.

Important placement and career decisions need to based on data gathered from multiple sources, including the evaluator's judgment, behavioral observations and input from referring sources. In all cases, less biased results are obtained when multiple criteria and a team approach are used.

Ideally, tests would have to be developed in the native language of the individuals being tested and normed on a representative population. However, considering the great number of cultures and languages represented in the United States and the critical shortage of bilingual professionals, particularly those who can speak Asian, African, Native American and other minority languages, this criteria seems unlikely to be met in the near future. Test translations offer alternatives, but these again present their own particular difficulties.

Translating tests appropriately requires linguistic as well as test construction expertise. Even if norming and translating tests to satisfy criteria for fairness for such diverse cultural and linguistic groups were feasible, the heterogeneity found within a culture makes this task even more difficult. For example, instruments developed and normed in Puerto Rico or Mexico contain items and vocabulary which may not be readily understood by an individual from Ecuador or Argentina, both Spanish speaking countries.

Geographically, Latin America spans two continents and parts of the Caribbean. This immense stretch of land encompasses a population as varied and complex as its fauna and flora. Generalizations regarding the people who inhabit Central America, South America, and the Caribbean are often inappropriate and can result in stereotypes and misunderstandings. For example, the term Latin America itself connotes a fundamental cultural linkage and linguistic homogeneity among peoples in countries as diverse as Cuba, Mexico, Chile and Panama. It ignores the differences among Anglophone Caribbean countries (such as Jamaica and Trinidad/Tobago) and their French or Spanish-speaking neighbors or those countries which share a substantial African heritage (such as Haiti and Brazil) from those which do not (such as Mexico or Argentina). Instruments translated and normed in Mexico and Bolivia may contain lexical choices reflecting indigenous cultures such as the Maya, Quechua, Guarani, Taino, etc. Another example is India where the constitution lists fourteen different official languages (Grosjean, 1982).

Second Language Acquisition

Second language acquisition is a complex and variable process dependent on learner characteristics as well as the social milieu. The speed and proficiency of learning a new language depends on the interaction of the individual's aptitudes and the access to opportunities for learning and using the second language both in formal and informal settings. Some specific aptitudes which influence second language acquisition are verbal memory, auditory perception, pattern recognition, and categorization. Learners with deficiencies in these areas will require longer to learn the second language. Other important learner variables which influence language acquisition are age, motivation, peer pressure, attitude of the majority culture towards the minority language, and personality characteristics such as ability to deal with change and risktaking. (Filmore 1985).

Bilingualism, or the ability to speak in two languages, occurs and develops in a continuum. Bilinguals are a diverse group in that their opportunities to learn the second language as well as to maintain their native one depends on the use of both languages at home, school, in social interactions and in the community where they live. Because bilinguals use the languages they speak in different settings and in different situations they are seldom equally fluent in both languages. Since they have not had the same language experiences, some may read and write better in the second language, or they may be illiterate in their native language. It is also possible, as in the case of children of immigrants, that they understand the language spoken at home but cannot speak it, or speak it minimally. Many bilinguals "code switch," that is, they use the two languages in the same statement, as do people in the Southwest who speak "Tex-Mex, a combination of English and Spanish (Grosjean, 1982). Because of these differences, it can never be assumed that an individual will perform optimally on a test just because it is in his primary language. It is therefore extremely important to ascertain degree of language proficiency and acculturation in order to determine that test results reflect the skills intended to be demonstrated by test performance rather than the examinee's language proficiency.

Fluency in English can be assumed from apparent proficiency in face-to-face communication. However the skills necessary to communicate at this level are considerably less demanding than those required to perform well on psychometric tests. Research suggests that information processing is slower in the less developed language and is more readily affected by noise and other intervening factors. (Figueroa, 1989; Cummins, 1982). Cummins (1980, 81) reports that it takes approximately five to seven years for "minority language students" to acquire the level of language proficiency necessary to perform optimally on achievement and psychological tests.

Test Translation

Word for word translations of tests fail to take into consideration that words, and phrases, do not have the same equivalency. Likewise, they may miss subtle idiomatic expressions. In vocabulary tests, words which are thought to be difficult in English may be "easy" words in Arabic, Vietnamese, or Zulu, and vice versa. To maximize the fidelity of a translation, a procedure called "back translation," has been suggested in the literature (Brislin 1990, 1883), (Anastasi 1988). In back translation, text is translated into the target language and then translated back into English by a native speaker through a bilingual interpreter. This technique is particularly effective when translating "pragmatic" text, such as in the case of work samples. Even with this process, care must be taken that the language used is not replete with dialectic regionalisms. For other psychometric tests, however, elimination of bias is not guaranteed even with perfect translation.

> "...it is possible for example that a specific item in a scale assessing interpersonal relations between individuals could be well translated but ask for the likelihood of behaviors that would not be exhibited under any conditions in the target culture." (Hulin, 1987)

Cultural Differences That Affect Testing

Tests developed in the West cannot be assumed to yield the same results for populations for which they were not developed. (Brislin, 1990). The scientific method which has earned Americans many accolades and has provided the impetus for the finest accomplishments in the technological arena is based on the assumption that events are dependent on a linear chaining of cause and effect and that this relationship is stable (Lyddon et al. 1990). In this model derived from Aristotelian logic, individuals within a culture believe that man has power over nature and his actions and therefore has control over his destiny and behavior. "Emotion, motivation, and action" are influenced by this perception. Individuals with different world views, however, interpret reality from a common cultural frame of reference and from their particular individual perspective, which may be at odds with this paradigm. Their perception of nature, time, space, of God, education, language, learning style, poetry, spirit, artifacts, the arts, etc. is patterned by the logic by which they give meaning to their world.

Misunderstandings can occur during interactions when people holding different views of what transpires during these interactions apply patterns from their cultural background to new situations. Landis and Brislin (1983) illustrate such a misunderstanding. Glick (1968) conducted studies with the purpose of investigating the classification behavior of the Kpelle, a tribe of rice farmers in Liberia. The subjects were presented with different sticks, some small, some large, some bent, etc. and given instructions to group the sticks according to similar characteristics. According to Piagetian theory of development, children develop strategies to classify, seriate, and order concrete objects by age seven. Glick was puzzled when the Kpelle subjects, all adults, failed to group the sticks according to shared characteristics. Similar studies conducted by other investigators yielded the same bewildering results leading them to conclude that the Kpelle were deficient in conceptual thinking. Sensing a misunderstanding, Glick asked the subjects why they had grouped the sticks in that manner. The Kpelle subjects revealed that this was the way clever Kpelle people would arrange the sticks. Realizing that the subjects had misinterpreted the Piagetian instructions, Glick instructed them to classify the sticks the way a stupid Kpelle would do it. With this new information, the subjects arranged the sticks in a perfect taxonomic grouping revealing the necessary cognitive skills to perform classifying tasks. Based on their customs and culture, the Kpelle subjects had misinterpreted the purpose of the test and had performed from their cultural perspective in which being smart is being clever, that is, cleverly confusing others.

Interview Process

In order to accommodate the accult urative status of individuals being tested, it is important that practitioners gather culturally related information prior to the assessment process. Insight into differences and interviewing techniques which recognize these cultural differences can help identify degrees of acculturation of individuals being tested.

Clarification should be obtained from the individual being tested with regard to comprehension and reasons for unorthodox answers in order to avert labeling such answers as aberrant. This tendency to attribute more deviancy to individuals from outside the professional's cultural milieu has been documented by Li-Ripac (1980).

We experienced an example of this type of misunderstanding in one of our evaluations. One of our evaluee's, a young woman from an African nation, expressed a desire to pursue a career in babysitting. In order to assess her ability to make judicious decisions related to this area of interest, she was administered a career exploration activity in which one of the questions asked was: "What is more important to have,the phone number of the children's parents or a refrigerator stocked with a lot of food?" Her answer was a refrigerator stocked with food. When queried about this answer later, the student insisted that her initial response was the correct one. Had this answer been taken at face value by the authors, the student might have been considered to lack common sense and could have been discouraged from pursuing a career in caring for children. However, further interviewing to gain insight into the student's world view and her country's customs revealed that in the village from where the student had emigrated food was scarce and most people did not own telephones. Babysitting was done by relatives and neighbors living in the same complex or nearby. Everyone in the village knew where everyone else was at a given point in time. From her cultural frame of reference, the student had given a very sensible answer indeed. Had this student emigrated from a more prosperous African nation, or from a more urban area, her experiences would have likely reflected a more "normal" background.

The above example serves to illustrate that questions pertaining to social knowledge, such as what to do in certain dangerous situations or how to respond to hypothetically ethical dilemmas may be answered in ways that are not appropriate to the macroculture standards, yet, be considered perfectly appropriate responses within the world view of the individual being tested.

Cultural Differences that Affect Testing

Professionals in the field of vocational evaluation typically develop hypotheses based on referral information which includes results of individual intelligence tests. These instruments tap heavily on specific knowledge and certain aptitudes that an individual is expected to have acquired by a certain age. Questions measuring that knowledge are framed in reference to the way the Western Anglo-Saxon macroculture views the world and its phenomena.

Tests assume that the level of technological development is the same everywhere, they fail to take into consideration that individuals from other cultures may not have been exposed to the same developmental experiences as in the United States where tinker toys and puzzles are used for the purpose of encouraging creative expression. Lacking these kinds of experiences, individuals from other cultures are at a disadvantage when asked to perform on tests which synthesize the whole from the parts. Individuals who favor a field-dependent cognitive learning style tend to find it difficult to discover simple figures embedded in a complex pattern (Bennett, 1990 p.143).

Paradoxically, non verbal tests which rely on pictures, can be biased as the stimulus pictures may not elicit the same response when the item presented is not a common object in the examinee's culture. For instance an individual living in the tropics may never have seen a toboggan or ice skated. When analyzing pictures out of sequence so that they tell a story, examinees might arrange them in such a way that they tell a story congruent with their own cultural backgrounds but at odds with the intent of the test as developed and normed for the U.S. macroculture. Monolingual test developers fail to take into consideration that cartoon strips, fairy tales, nursery rhymes, fables, etc. are culture bound and are biased even when translated. Questions about climate and geography can elicit different responses, too. For instance, in the Southern Hemisphere, winter occurs during the Northern Hemisphere's summer and the skies over New Zealand and Chile exhibit different constellations than we see north of the Equator.

In the United States vocations are freely chosen. Children are raised with the expectation that any goal is within their reach, if they only try hard enough. This is the ideal, yet in reality the opportunities for a black child living in the ghetto will not be equal to those available to a child living in an affluent suburb, thus socio-economic status plays an important role in interest development. This is also true in other cultures. In addition, vocations may be prescribed or limited by cultural tradition, such as prestige, sex roles and familial expectations (Fuad and Hansen, 1987). In many cultures people perceive themselves as a family unit first and then as individuals. This loyalty can demand that personal goals and aspirations be subordinated to the greater needs of the family. In conventional Asian families the priorities of the family dictate the degree of education that specific sons and daughters will receive and what fields they can pursue. In more than one case in the authors' experience, when parents of some Asian students had plans to open a restaurant or another business, the children were expected to prepare for entering the business at some point and were therefore being persuaded to take courses in restaurant management, food preparation and business, regardless of their aspirations.

Among Asian youth, occupations in the physical sciences, skilled trades and business seem to be preferred. They are less interested in occupations which emphasize verbal-linguistic skills (Luzzo, [illegible]2). Differences also exist along gender lines. Nursing and cosmetology are socially accepted occupations for females in Asian cultures (Peters, 1988). But in Saudi Arabia where a relatively few number of women are employed outside the home, women are excluded from the nursing profession. Women in Saudi-Arabia are not free to make decisions involving careers and work, and it is their fathers, brothers, or husbands who have exclusive rights over whether they work or not, or even what to do with their wages (Pryce-Jones, 1989 p.129). It is not correct, however, to generalize when talking about aspirations of Southeast Asian women, as differences exist among countries, social circles and individuals. Sino-Vietnamese (Saigon and Cholon) and Vietnamese women, on the whole, have greater aspirations than Hmong, Laos and Cambodian women who are more frequently from rural backgrounds. Vietnamese emphasize education and achieving social status while the rural Hmong have not had the same tradition. Hmong women are expected to marry early and for reasons of fidelity, husbands de-emphasize education.

Culture Specific Variables That Affect Testing

Individuals from the United States have been tested from early age. Test results are used in school for grade placement, program placement, disability identification, career identification, college scholastic aptitude, etc. Results of tests are used for employment purposes, to identify marital satisfaction/discord, for clinical diagnosis, and so on (Brislin 1990). The majority of people in the world, however, have not been exposed to test taking. By failing to understand the purpose and seriousness of testing, individuals not familiar with test taking and test format may not answer all test items, or even answer questions at random. This lack of knowledge places them at a disadvantage because they fail to recognize that results of testing could affect future training and career opportunities.

Many tests rely heavily on time, encouraging elements of competitiveness. People not exposed to test taking procedures may totally miss this point and see no relevance in answering quickly. In cultures which value harmony as well as group agreement, such as Vietnam and China, people tend to answer positively when they think that such answers are socially expected.

Tests often require right or wrong, true or false, like or dislike answers. This emphasis on dichotomies is not always congruent with the world view of people from cultures which think in a holistic, intuitive manner.

In order, then, to decrease as much as possible bias in testing, all the above factors need to be taken into consideration when using test instruments with individuals from other cultures.

Conclusions and Recommendations

Vocational evaluation when conducted appropriately is in a unique position to accommodate the needs of multi-cultural populations. The length and process of a vocational evaluation allows the evaluator to observe behaviors over a period of time and take into consideration language ability and cultural differences. The process of vocational evaluation utilizes career exploration, work samples, job simulations, and situational assessment as its focal point and supplements it with paper and pencil tests. Interviews, behavioral observations, referral information, academic functioning, work experience, and pertinent medical/psychological and social backgrounds are taken into consideration to evaluate, synthesize and interpret vocational information. This is a useful and fairer approach than methods which rely on a single measure at one point in time.

- The interview process is of critical importance and sets the tone for an effective evaluation. Establishing rapport is a fundamental tenet of a successful interview, but critical when working with individuals from different cultures (Colyer and Smith, 1989).

- Requesting additional information during the referral can help better individualize the assessment. Information that might be helpful could include: family, place of birth, number of siblings at home, sibling position, who constitutes "the family," languages spoken at home, parental occupation, parents' education, who makes decisions in the home, parental/familial expectations regarding career goals, school/work history, language dominance and language history, literacy in primary language, educational levels, extent of schooling previous to arrival to the United States, how long living in the United States, how the individual learns best (learning styles), how work is viewed in the original culture, how disability is viewed in the culture, holidays, favorite foods, etc. Checking for congruency and obtaining clarification should be an ongoing process.

- Preferably, tests should be administered by an individual who is fluent in the language, who recognizes dialectic differences, and is cognizant of the culture of the individual being tested. This, of course, is not always possible. In such cases, needed safeguards must be taken to assure that interpreters are equally fluent in both languages so that fidelity in translation is guaranteed. It is also important that the interpreter be familiar with the test vocabulary, with the purpose of testing and test protocols. Interpreters might identify with the examinee and give prompts in order to avoid that the examinee "lose face" (a cultural concern among Asian people.) Care also must be taken that the interpreter is favorably predisposed toward the examinee along social, political lines. For reasons of confidentiality, if at all possible, relatives should not be asked to translate.

- Examinees should be taught the rules of test taking and the test format. The evaluee should be taught how to complete booklet covers, the use of separate answer sheets, to look for key words in multiple choice questions and the importance of accuracy and speed. They should be informed when it is appropriate to guess - or to skip difficult questions. Most importantly it should be emphasized that it is acceptable to ask questions when the directions are not understood.

- An important consideration is the learning style of the individual being tested. Many individuals from other cultures [illegible] great emphasis on social rituals and are very sensitive to the way others interact with them. They require a personal and directive approach from teachers and other professionals as well as employers. This acknowledgement will contribute to rapport building and encourage individuals to express their views regarding likes and dislikes.

- When confronted with the testing situation, individuals from different cultures may react with anxiety and exhibit behaviors which can be interpreted as inappropriate. It is important to be aware of the stages of acculturation of the individual and attempt to develop a true comfort level.

- Take care when observing and describing behaviors that they are not labeled aberrant when in fact they may represent the evaluee's cultural background.

- Do not discourage individuals from pursuing certain vocational goals just because they have not acquired the necessary level of English proficiency.

- It is important that if standard norms are to be used, the tests be normed on the appropriate populations. For instance tests administered to Puerto Rican, Mexican Americans, Cubans, Costa Ricans, Colombians, etc. should be normed on each of those specific populations.

- When pictures are used in tests, assure that the evaluee is familiar with them, that they are part of his culture, as pictures which are seen previously are processed faster.

- Take into account individuals' possible learning handicaps and their effects on oral language and reading.

- Whenever possible connect the evaluation with the individual's personal experience and attempt to devise situational assessments which reflect these experiences.

- The use of a bilingual team is highly recommended. Bilingual teachers, counselors, psychologists, speech therapists, etc. might be asked to be part of the team. Paraprofessionals specifically trained in assessment and under direct supervision of the evaluator can be of invaluable assistance. When using paraprofessionals in the assessment process, provide careful training and review results. Bilingual community members can be included in the team as they can provide specific cultural information which can help clarify the information gained during the assessment.

- Use language that is clear and concise. Avoid regionalisms, colloquialisms, idioms, and double negatives.

- When devising work sample instructions, make certain to use back translation techniques.

References

Anastasi, A. (1988). Psychological Testing, 6th ed. New York: Macmillan.

Ascher, C. (1991). "testing Bilingual Students: Do We Speak the Same Language?." PTA Today, 16(15), 7-9.

Berry, J.H.W. (1980) "Acculturation as Varieties of Adaptation." In A.M. Padilla (Ed.) Acculturation: Theory, Models and Some New Findings. 9-25, Boulder, CO: Westview Press.

Brislin, R.W. (Ed.). (1990). Applied Cross-cultural Psychology. Newbury Park, NJ: Sage Publications.

Brislin, R.W. & Landis, D. (Eds.). (1983). Handbook of Intercultural Training Volume I Issues in Theory and Design. New York: Pergamon Press.

Carroll. R. (1990). Cultural Misunderstandings: The French American Experience. Translated by Carol Volk. Chicago: University of Chicago Press.

Clark, E.R. (1990, September). "The State of the Art in Research on Teacher Training Models with Special Reference to Bilingual Education Teachers." Paper presented at the National Symposium on Limited English Proficient (LEP) Students's Research Issues. Washington, D.C.: Office of Bilingual Education and Minority Issues Affairs.

Cummins, J. (1982). "Tests, Achievement, and Bilingual Students." Focus, 9(February), 1-8.

d'Ailly, N.H. (1992). Asian Mathematics Superiority: A Search for Explanations." Educational Psychologist, 27(2), 243-261.

Figueroa, R.A. (1989). "Psychological Testing of Linguistic-Minority Students. Knowledge Gaps and Regulations." Exceptional Children, 56, 145-152.

Filmore, L. Wong. (1985). "Second Language Learning in Children" A Proposed Model." Paper presented at a national information exchange co-hosted by the National Clearinghouse for Bilingual Education and the Georgetown Bilingual Education Center, Rosslyn, Virginia, July.

Fouad, N.A. & Hansen, J.C. (1987). "Cross Cultural Predictive Accuracy of the Strong-Campbell Interest Inventory." Measurement and Evaluation in Counseling and Development, 20,(1), 3-10.

Fremer J. Diamond, E.E. & Camara W.J. (1989). "Developing a Code of Fair Testing Practices in Education." American Psychologist, 44:(7): 1062-1066.

Grosjean, F. (1982). Life with Two Languages. Cambridge, MA: Harvard University.

Hulin, C. (1987). "A Psychometric Theory of Evaluations of Item and Scale Translations: Fidelity Across Languages," Journal of Cross-Cultural Psychology, 18, 115-142.

Langdon, H.W. (1989). "Language Disorder or Difference?: Assessing the Language Skills of Hispanic Students." Exceptional Children, 56, 160-167.

Larsen-Freeman, D. (1985). "Overview of Theories of Language Learning Acquisition." Paper presented at the Issues in English Language Development for Minority Language Education, Rosslyn, Virginia, July.

Li-Ripac, D. (1980). "Cultural Influences on Clinical Perception: A Comparison of Caucasian and Chinese American Therapists." Journal of Cross-Cultural Psychology,11,327-342.

Louzzo, D.A. (1992). Ethnic Group and Social Class Differences in College Students' Career Development," The Career Development Quarterly, 41, 161-170.

Lyddon, W.J., L.E. Adamson. (1992) "Worldview and Counseling Preference: An Analogue Study, Journal of Counseling & Development, 41-47.

Miller, N. (Ed.) Bilingualism and Language Disability: Assessment and Remediation. London: Croom Helm and San Diego, CA: College Hill Press.

Peters, H.A. (1988). A study of Southeast Asian Youth in Philadelphia: a Final Report. Report prepared for the U.S. Department of Health and Human Services, Family Support Administration, Office of Refugee Resettlement, Washington D.C.

Pryce-Jones, D. (1988). The Closed Circle: An Interpretation of the Arabs. New York: Harper Perennial.

Sattler, J.M. (1974) Assessment of Children's Intelligence. Philadelphia, W.B. Saunders Company.

Authors

Norma L. Colyer, M.S., CVE, CRC
Vocational Evaluation Specialist
Marshall Assessment Center
7731 Leesburg Pike
Falls Church, VA

Fran G. Smith, Ed.S., CVE
Vocational Technology Specialist
Integrated Technology Services
Fairfax County Public Schools
2334 Gallows Rd.
Dunn Loring, VA 22027

PERSONNEL SHORTAGES IN VOCATIONAL EVALUATION

SHIRLEY K. STEWART

Abstract

Vocational evaluator vacant positions from 1988, 1989, 1990, and 1991 have been studied. These vacancies were identified through announcements made in the Vocational Evaluation and Work Adjustment Association (VEWAA) Employment Exchange which is published in cooperation with the University of Wisconsin-Stout's weekly job vacancy list. The four year study attempted to identify problems encountered by employers when trying to fill vocational evaluator vacancies and to determine which factors were instrumental in their hiring decisions. The study concludes that there is a shortage of qualified vocational evaluators to fill the vacancies announced through the VEWAA Employment Exchange. Employers suggest the lack of qualified applicants is due to inadequate training, inadequate work experience and competition for qualified applicants. Employers hire individuals to fill the vocational evaluator positions but need to provide in-service training to their new employees. An increase in hiring less qualified vocational evaluators and an increase in time needed to fill the vacancies are observed.

This paper reports on a four year study of hiring practices by rehabilitation organizations in the public and private sectors. The study examines the factors that were influential in the hiring decisions and the problems encountered by employers when filling actual vocational evaluator vacancies in 1988, 1989, 1990, and 1991. The paper begins with an overview of prior research of rehabilitation personnel needs, followed by a description of how the actual vacancies were studied. It concludes with a series of data based observations about the future and the preparation of vocational evaluators. Recommendations are offered for pre-service and post-service programs.

Review of Earlier Studies

Several personnel needs assessments have been conducted since 1980. Typically these studies survey administrators in rehabilitation service delivery organizations (facilities), and/or state vocational rehabilitation agencies directly supported by state/federal funds (Cohen & Pelavin, 1992; Menz, 1983, 1986; Pelavin, Pelavin & Celebuski, 1987; Roberts, Oliveri & Delmonico, 1989; Ugland, 1981). In addition to descriptive information about the organization, these administrators were often asked to forecast their hires during a given period and to identify the number of budgeted positions, number of unfilled positions, time needed to fill any vacant positions they may have, adequacy of the applicant supply, areas of critical training needs, and positions with high turnover.

The 1980-81 Minnesota Rehabilitation Personnel Manpower Survey was sent to state rehabilitation agencies, veterans administration offices, community rehabilitation facilities, and private sector rehabilitation service providers. The decision makers in these Minnesota organizations were asked to provide a 12 month forecast of rehabilitation personnel needs (Ugland, 1981).

In 1980-81, a national survey of manpower needs for vocational rehabilitation facilities was conducted by the Rehabilitation Research and Training Center at the University of Wisconsin-Stout (Menz, 1983). This assessment was designed to assist the Rehabilitation Services Administration plan for their in-service and long-term training programs. Directors of 2,456 rehabilitation facilities that provided vocational services to individuals with disabilities were surveyed. In 1984, the Community-based Vocational Rehabilitation Facility Manpower Needs Assessment was conducted and 1,624 responses from administrators in 923 facilities were used to profile rehabilitation facilities and personnel training needs (Menz, 1986).

In 1984, Region VII Rehabilitation Continuing Education Program conducted a National Rehabilitation Manpower Needs Assessment (Roberts, Oliveri & Delmonico, 1989). They collected data from 65 of the 82 administrators of the state/federal vocational rehabilitation agencies. They focused on reporting supply and demand information using indices to determine total funded positions, percent turnover, demand, and supply.

The U.S. Department of Education contracted with Pelavin Associates in 1986 to "identify possible critical shortages of rehabilitation specialists which could be meaningfully addressed through special priorities governing the allocation of federal training funds available through RSA" (Pelavin, Pelavin & Celebuski, 1987, p. 1). Subsequent studies were also completed by Pelavin Associates in 1989 and 1992. The initial survey was conducted with directors of all state vocational rehabilitation agencies and directors of a sample of non-state organizations approved to provide services to state vocational rehabilitation clients. Later studies added directors of all organizations receiving federal grants to operate Centers for Independent Living (CIL) and directors of all organizations receiving federal grants to run Client Assistance Programs (CAP).

Needs assessments of rehabilitation personnel serve many purposes. As Ugland (1981) suggested, they assist (a) employing agencies in identifying future staffing needs, (b) professionals in understanding their employability, (c) rehabilitation educators in designing curricula, and (d) students in career planning and decision making. Also, the data collected is used to plan long-term and short-term training programs at local, state, regional, and national levels. It is this planning that results in decision priorities for the allocation of federal training funds which in turn creates competition for scarce resources among professionals in various rehabilitation education programs.

Assessment of personnel needs must be continuous. This point is emphasized when reviewing Menz's comparison of facility personnel needs from 1980 and 1984 (Menz, 1986). Over these four years, he found declines of between 37 to 58% in projected levels of facility needs for key rehabilitation roles with increases in supervisory and "other" positions. He cautioned that there was and would continue to be a growth in "combined" or "generalists" positions in rehabilitation facilities.

Direct comparisons between and among studies that used different instruments and methods and surveyed different groups to obtain information or needs should be avoided. Even when studies are conducted by the same organization data may not be comparable. Cohen and Pelavin (1992) caution the reader to "resist the temptation to compare important statistics from this survey with apparently similar statistics from the 1987 and 1989 SOPS [Survey of Personnel Shortages]" (p. 1-7). Instrumentation and the way shortages are measured differ among the studies of rehabilitation personnel needs. Differences among the groups surveyed may limit the value of comparison data.

Purpose

The present survey of vocational rehabilitation vacancies reported in this paper, began as an effort to determine if the employers of rehabilitation professionals who announced their vacant positions through University of Wisconsin-Stout's Career Services (in cooperation with the Vocational Evaluation and Work Adjustment Association (VEWAA) Employment Exchange) were able (a) to identify an adequate applicant pool and (b) to fill their positions with qualified rehabilitation professionals. The survey also attempted to determine factors important and unimportant in the final hiring decision and to identify the extent of training needed after an individual was hired.

Method

Instrumentation

Upon review of past rehabilitation personnel needs assessments (Pelavin, Pelavin & Celebuski, 1987; Menz, 1983, 1986; Ugland, 1981) a questionnaire was developed for the purpose of obtaining information on each vacant position that was announced through the University of Wisconsin-Stout's Career Services.

Drafts of the instrument were reviewed by a colleague who had been involved in previous research on personnel needs in rehabilitation. The survey was structured so that information would be gathered about each specific vacancy, rather than about general impressions regarding vacant positions. The questionnaire requested information on each position's (a) description and qualifications, (b) applicant pool, and (c) results of the search for a qualified rehabilitation professional, as well as (d) general impressions regarding positions which had been difficult to fill in the respondent's organization.

The questionnaire was first used to obtain information on 1988 vacancies. The one page, double-sided instrument was slightly modified in the survey of 1990 and 1991 positions. Two questions were eliminated due to the high number of unusable responses to these items on the returned questionnaires. These questions asked for costs of in-service training and demographic descriptions of the person hired to fill the vacancy. Added to the instrument was an item to more fully describe the size of the organization and an item that reported the total number of rehabilitation vacancies experienced during the past year.

Procedures

As was the practice of other rehabilitation personnel needs assessments, the questionnaire was sent to those who hire rehabilitation professionals. However, the study was not limited by program type or employment sector. A questionnaire was mailed to an organization when (a) an announcement of a vacant position was listed in the VEWAA Employment Exchange published in cooperation with University of Wisconsin-Stout's Career Services, (b) the vacancy was for a rehabilitation position, and (c) a mailing address was available in the position announcement. An important difference from other studies of rehabilitation personnel needs is that this survey obtained information only about positions that were vacant in the previous year. Therefore, the findings are descriptive of recent hiring patterns.

The questionnaire was mailed to the contact person named for each rehabilitation vacancy for the years of 1988, 1989, 1990, and 1991. These included rehabilitation vacancies in addition to the vocational evaluator positions being described in this report. The position title and the degree given as a qualification for the given vacancy was printed on each questionnaire prior to being mailed. A questionnaire was sent for each job vacancy; if a person was listed as the contact for several positions, s/he was sent separate questionnaires for each position in one envelope. The initial questionnaire, a brief cover letter, and a stamped return envelope was sent in May or June following the year that the vacancy was announced. A return date was given with approximately a three week period allowed to complete and return the questionnaire. A follow-up letter and second questionnaire were sent in July or August to non-respondents. For example, survey materials were mailed in June, 1989 to the contact person listed for each 1988 job vacancy. Non-respondents were sent a second questionnaire with a follow-up letter in July, 1989.

Participants

Survey participants were identified through their vacancy announcement(s) listed with the University of Wisconsin-Stout's Career Services. This weekly list of job vacancies was published in cooperation with the Vocational Evaluation and Work Adjustment Association (VEWAA) Employment Exchange. Fifty issues of the vacancy list were published annually. Each year of the study, a questionnaire was mailed to the contact person listed for each different rehabilitation vacancy. The entire population, therefore, was surveyed. Because of the association with VEWAA, rehabilitation vacancies from across the nation were announced in the weekly publication.

Positions with a wide range of rehabilitation job titles were received since the vacancy list is used by students seeking professional rehabilitation positions in a variety of specialties and in a variety of settings. In 1988, 558 different job vacancies were included in the survey; in 1989, 575 different job vacancies were included; in 1990, 486 different job vacancies were included; in 1991, 400 different job vacancies were included. The number of useable returned questionnaires for the entire population is shown in Table 1.

Table 1: Population response rate

Year	Number Mailed	Useable Responses	Rate
1988	558	369	66.1
1989	575	329	57.2
1990	486	284	58.4
1991	400	218	54.5

The response rate for vocational evaluator positions ranged from 55.8 to 73% and is shown in Table 2.

Table 2: Vocational evaluator vacancy response rate

Year	Voc Eval Vacancy	Useable Responses	Rate
1988	126	92	73.0
1989	113	63	55.8
1990	108	69	63.8
1991	68	41	60.3

Analysis

Simple descriptive statistics, using the 1989 ABSTAT statistical computer program by Anderson Bell, were applied to the returned survey data. Percents were computed for information that lent itself to frequency analysis. Mean, median, standard deviation and ranges were computed on data such as number of applicants, number of qualified applicants, salary, time taken to fill and length of typical employment.

One of two open ended questions was analyzed for this report: "For which positions has it been most difficult for your organization to find qualified applicants?" The responses from each of the four years to this item were reviewed and categorized by job title. Frequency counts were tallied.

Descriptive statistics were computed for each title, for each item on the questionnaire, and for each of the four years. This paper, however, focuses only on responses to vacancies that had vocational evaluator in the title. The analysis provides a four year picture of vocational evaluator vacancies that occurred from 1988 to 1991. Changes and trends in the vocational evaluator vacancies are also discussed.

Results

Description of vocational evaluator positions

Vocational evaluator positions were most frequently found in facility-based programs across the four years of this study. The percentage of facility-based vocational evaluator vacancies varied widely, approximately 30% (49.2 to 81%), during the four years (see Table 3). However, the number of respondents identifying vocational evaluator vacancies as facility-based only ranged between 31-34 positions during the last three years. The significant increase in the percentage of facility-based jobs to 81% for 1991 is attributed to the decrease in jobs identified in the other categories (i.e., community-based, educational, private case management and other). More vacancies were available in 1988 with the vast majority of the openings for facility-based positions. Fewest vacancies were available in 1991 and the vast majority of those vacancies were facility-based. The years of 1989 and 1990 appear to be an experimental period with vocational evaluator job vacancies as likely to occur outside the facility as in the facility.

The employment sector of vocational evaluator positions most frequently indicated in each of the four years was that of "not for profit" ranging from 63.2 to 88%. The second most frequent response was "private" ranging from 30.9 to 52.2%, followed by "education", "for profit", and "government". The respondent could select as many sector terms as was appropriate to their organization, and not for profit and private agencies remain the backbone of employment opportunities for vocational evaluators.

Some organizations recruiting vocational evaluators listed minimum educational preparation and certification requirements as basic qualification for the positions. The percentage of vacant vocational evaluator positions that required the applicant to have a Master's degree ranged from 38.1 to 64%. This range decreases when the qualifier is modified to read "Master's degree preferred but Bachelor's accepted". The range is then 59.8 to 74% across the four years. Five to 20% of the vacancies did not state a minimum educational requirement in the position announcement. The requirement of some type of certification ranged from a high of 35.6% of the positions in 1988 to a low of 22.5% of the positions in 1991. Less than half of the vacant vocational evaluator positions required educational preparation at the graduate level, although preference for the graduate degree is frequently given. Only about one-third required certification for the vocational evaluators they recruited.

Table 3: Vocational evaluation position information

Position	1988	1989	1990	1991
		Percents		
Type of Program:				
Facility-base	72.5	49.2	50.0	81.0
Community-base	8.8	14.3	14.7	2.5
Medical facility	6.6	9.5	8.8	10.0
Private case management	2.2	14.3	5.9	2.5
Educational	7.7	9.5	10.3	2.5
Other	2.2	3.2	10.3	2.5
* Sector:				
Not for profit	88.0	66.7	63.2	82.9
Private	52.2	41.3	30.9	36.6
Government	8.7	7.9	11.8	7.3
Education	12.0	17.5	16.2	7.3
For profit	5.4	12.7	13.2	12.2
Minimum Degree:				
MS	41.3	38.1	64.0	43.9
MS preferred-BS accepted	18.5	25.4	10.0	12.2
BS	31.5	31.7	16.0	24.4
None listed	8.7	4.8	10.0	19.5
Certification required	35.6	27.4	31.3	22.5

* Multiple responses allowed

Outcomes of the search to fill vocational evaluator vacancy

Employers searching for qualified personnel between the years of 1988 and 1991 frequently report finding an inadequate pool of candidates from which to fill vocational evaluator positions, yet they filled between 83.3 to 87.5% of the positions. In 1988, 71.3% of the respondents said the applicant pool was not adequate; in 1989, 59.3% reported an inadequate pool; in 1990, 53.1% reported an inadequate pool; in 1991, 64.1% reported an inadequate pool.

The factor contributing to the inadequate applicant pool most frequently listed in two of the four years, and as the second ranked reason during the other two years, was inadequate training of the applicants (see Table 4). In 1988 and 1989 inadequate work experience was either the factor listed first or second. In 1990 and 1991 the competition for the qualified applicant was listed in the first or second position. Employers reported low salary and geographic location have some influence, but not to the extent of the other three important factors. The shortage of adequately prepared (trained and experienced) candidates for available vocational evaluator positions is consistently the primary reason for an inadequate pool. Increased competition for those candidates with training and experience may be a growing reality among those searching for qualified vocational evaluators to fill vacant positions.

Although many respondents perceived the applicant pool to be inadequate, approximately 85% of the vocational evaluator positions were filled. For those positions not filled in 1988 and 1989, the most frequently given reason was that qualified professionals could not be found. That was one of the reasons given for not filling 40 to 50% of the 1990 and 1991 vocational evaluator positions that remained vacant. Another reason increasingly being cited for not filling a vacancy is that funding for the position has been cut or eliminated before an appropriate candidate could be attracted by the organization. Combining the vocational evaluator position with another may be a creative response to the inadequate applicant pool.

Table 4: Outcomes of vocational evaluator search

Outcomes	1988	1989	1990	1991
		Percents		
Vacancy Filled	83.3	84.1	85.3	87.5
Reasons Not Filled:				
Unable to find qual. professional	80.0	66.7	50.0	40.0
Combined into dif. position	-	22.2	12.5	20.0
Lost funding	-	11.1	50.0	60.0
Other	26.7	22.2	12.5	-
Inadequate Pool	71.3	59.3	53.1	64.1
Factors:				
Inadeq. training	52.5	45.7	44.1	60.9
Inadeq. work exp.	49.2	48.6	38.2	43.5
Competition for qualif. apps.	42.6	34.3	52.9	47.8
Low salary	37.7	37.1	35.3	39.1
Geographic location	36.1	25.7	44.1	21.7
Hiring Outcome:				
With pref. degree	66.7	72.9	53.0	66.7
With training	61.0	51.8	57.6	71.7
Factors Important in Hiring Decision:				
Having degree	88.0	85.5	84.6	80.5
Work experience	89.1	85.5	87.7	78.0
Post employ. HRD: inservice needed	85.1	67.8	76.7	80.6

During the four year period of 1988-1991, it was an important deciding factor that the individual hired for the vocational evaluator position have the preferred degree. The lowest percentage of those filling vocational evaluator positions and possessing the preferred degree occurred in 1990 when 53% of those hired had the preferred degree. The highest percentage occurred in 1989 when 72.9% of those hired in vocational evaluator positions had the preferred degree qualification. When a candidate with the preferred degree is not available, we are noting a steady increase in hiring those less qualified, but who have some training that is relevant to vocational evaluation.

Having relevant, extensive work experience influenced the hiring decision. Its relative importance is influenced by the capacity to recruit vocational evaluators with the preferred degree. Except in 1991, the year with the fewest identified vocational evaluator vacancies, the importance of work experience increases when hiring individuals without the preferred degree and it decreases when hiring vocational evaluators with the preferred degree.

Employers were asked if a specifically trained person was hired to fill each listed vocational evaluator position. The affirmative responses for the four years ranged from a low of 51.8% in 1989 to a high of 71.7% in 1991. They were also asked if the extent of work experience was a significant factor in the hiring decision. The affirmative responses from 1988-1990 had a range of 85.5 to 89.1%, suggesting work experience was important. A lower response to this item was seen in 1991 when 78% perceived this to be significant in their hiring decision.

Even under the best of circumstances, employers with vocational evaluator vacancies reported that they had to provide in-service training to the large majority of those hired. Although 85.1% provided in-service training in 1988, that dropped to 67.8% in 1989. Since then an increase was noted with 76.7% providing in-service training in 1990 and 80.6% providing in-service training in 1991. While some of this human resource development may be for orientation purposes, these data also suggest that training prior to the hire did not fully prepare the individual to function as a vocational evaluator. The rehabilitation training may have been general in nature, rather than focused on vocational evaluation.

Demands from the field

The Vocational Evaluation and Work Adjustment (VEWAA) Employment Exchange announced a total of 415 vocational evaluator vacancies during the four years of this study. Information on 265 of these vacancies was received from contact persons named on the vacancy announcements. Between 1988 to 1991 the average number of applicants per vacancy for vocational evaluator positions was between 10.8 and 14.8 applicants with 2.7 to 4.2 applicants being considered qualified by the survey respondents (see Table 5). Mean number of applicants for each position was 11.9 and over the four years, the mean number of qualified applicants was 3.3. Therefore, it appears that for every qualified applicant, employers will typically have to screen out 3.5 unqualified applicants.

Table 5: Demand factors

Factor	1988	1989	1990	1991
Mean no. of apps/job	10.8	14.8	10.8	11.6
Mean no. of qual. apps/job	2.7	4.2	3.7	3.1
Percent of qual applicants	24.0	28.0	34.0	28.0
Mean time job open (months)	3.0	3.3	4.3	3.8
Typ. length of employ (years)	2.9	3.1	2.9	3.0
Mean salaries				
Low	19,557	21,518	22,930	23,632
High	19,969	22,391	23,688	23,837

Typically jobs were vacant for between 3 months (1988) and 4.3 months (1990). The survey data suggest a modest lengthening of the time it takes to fill vocational evaluator positions. The typical length of time a person stays in these positions was reported to be approximately three years.

Salaries paid to individuals accepting these vocational evaluator positions show a slight and steady increase through the four years. The low mean 1988 salary was $19,557 with the 1991 mean salary was at $23,632. An increase of approximately $1,000 per year was seen.

Each year approximately 50% of the returned questionnaires included written responses to the open-ended question asking "for which positions has it been most difficult for your organization to find qualified applicants?" Vocational evaluator was the job title named most frequently in each of the four years. From 1988 to 1991, between 18.7 and 23.3% of the total responses gave vocational evaluator as the position most difficult to fill. The second place position given in response to the open question on difficult positions to fill was named with one half the frequency of vocational evaluator.

Table 6: Most difficult position to fill

Year	All Job Titles	Vocational Evaluator	
	Frequency	Frequency	Percents
1988	365	81	22.2
1989	268	50	18.7
1990	202	47	23.3
1991	149	34	22.8

Conclusions

The findings from this study of vocational evaluator vacancies suggest the following:

1. There is a demand for qualified vocational evaluators.
2. Vocational evaluator positions are the most difficult rehabilitation vacancies to fill.
3. Vocational evaluator positions are filled whether or not the employer can find a qualified applicant.
4. The importance of competition for qualified vocational evaluators should not be underestimated. If employers cannot get an individual with the preferred degree and specific training, they look to those applicants with relevant work experience.
5. Vocational evaluator positions are more likely to be found in facility-based programs than in community-based programs or within a state agency.
6. Employers prefer to hire vocational evaluators with a graduate degree.
7. Employers will hire vocational evaluators without a graduate degree.
8. Employers do not appear to consider certification very important for hiring vocational evaluators.
9. In-service training in procedures of vocational evaluation is needed since generalists, including those without Master's degrees, have been hired to function as vocational evaluators.
10. Pre-service vocational evaluation training programs should emphasize clinical experiences. Employers look for work experience.

11. All rehabilitation graduate students could benefit from applied course work in vocational evaluation since vocational evaluator job opportunities exist for students graduating from general rehabilitation programs.

Beyond Demand

Vocational evaluation has developed as a professional specialty within rehabilitation. The vocational evaluator has defined roles and functions and is expected to possess essential knowledge and skills in order to be certified by the Commission on Certification of Work Adjustment and Vocational Evaluation Specialists. There is an identifiable body of knowledge and research evidence supporting vocational evaluation contributions to consumer outcomes (Hayward, Wine, Thorne, Stoddard & Wilhite, 1992; Hayward, Thomas & Fiore, 1991). Several universities offer graduate education programs to prepare the professional vocational evaluator. Many of these graduate programs have been supported through training funds authorized by the Rehabilitation Act of 1973 as part of a national effort to increase the numbers of qualified personnel providing vocational evaluation services to individuals with disabilities. Section 304(b)(1) of the 1984 amendments (Public Law 98-221) requires that "in making such grants or contracts, the funds ...be targeted to areas of personnel shortages."

This study describes a shortage of qualified vocational evaluators. The demand of the private, non-profit rehabilitation sector for these trained professionals is not being met. Findings from this study can be useful in documenting personnel shortages and in seeking funds to support the training of additional qualified vocational evaluators since the trend is for vocational rehabilitation state agencies to contract with non-profit programs to provide vocational evaluation services. The graduate programs offering emphasis in vocational evaluation can use the results of this study to compete for these limited funds within the priority of vocational evaluation. While data like these reported here might be used to draw funds away from other identified priorities for training, this is not the intended use of this paper. That type of competition will not solve the human resource shortage problem. An outcome or use of this study may be to develop ways to increase cooperation rather than competition.

It is evident that specialization is being threatened. Employers cannot find qualified specialists to provide needed vocational evaluation services. Consequently, rehabilitation employers are attempting to find professionals who are flexible and who take on various roles within the organization. Since the mid 1980's, Menz (1986) has suggested that the rehabilitation generalists are doing many duties that specifically trained professionals had previously performed. The studies from Pelavin Associates (1992) suggested a growing reduction of specialization in vocational rehabilitation as evidenced by the growing use of the Bachelor's degree by state agencies and related agencies.

Is this happening because it results in an improved array of programs or increased level of service for consumers of rehabilitation programs? Typically specialization grows, rather than dies, as a field matures. Graves (1989) suggests that specialization is necessary because of increases in the (a) complexity of the world of work; (b) knowledge of the needs of people with disabilities; (c) appreciation, by society and the field of rehabilitation, of the abilities of individuals with disabilities; and (d) applications of technology. Graves (1989) goes on to state that specialized roles and functions are a means to meet the new rehabilitation challenges.

If rehabilitation educators and professionals are going to compete, let that competition be one that challenges us to come up with ways to better meet the needs of consumers who use rehabilitation services. Let that competition be one that challenges us to provide more of the needed training that addresses the national shortage of professionals with specialized skills and knowledge. We know there is a demand for qualified rehabilitation personnel. We have strong evidence regarding specific jobs that go unfilled or are filled by individuals who are not trained for the positions. But this information does not solve the problems. Former RSA Commissioner, Nell Carney, presented the challenge to rehabilitation educators and professionals in 1989:

> I do not believe it is enough just to identify the needs in training. We must all form a partnership to promote careers in rehabilitation. We must recruit at the senior high and junior college levels. We must tell the young people what you and I know about direct service delivery--that it is a noble and rewarding calling--that to be involved with a career in rehabilitation is to be involved with a human service effort which provides opportunities for disabled individuals to reach maximum potential, regain dignity, share in the American dream (p. 31).

We must continue to offer quality, specialized education at the graduate level, but we must also increase our efforts to bring more people into the field through cooperative efforts started by the former Commissioner.

References

Carney, N. C. (1989). National training issues: RSA's perspective. In J. S. Wesolek (Ed.), Proceedings of the 1989 Annual Training Conference of the National Council on Rehabilitation Education (pp. 29-31). Menomonie WI: University of Wisconsin-Stout, Materials Development Center.

Cohen, J. & Pelavin, D. C. (1992). Survey of personnel shortages and training need in vocational rehabilitation: Final report. (Contract No. LC89088001). Washington, DC: Pelavin Associates, Inc.

Graves, W. H. (1989). Rehabilitation education and training in America: Key historical perspectives. In J. S. Wesolek (Ed.), Proceedings of the 1989 Annual Training Conference of the National Council on Rehabilitation Education (pp. 9-16). Menomonie, WI: University of Wisconsin-Stout, Materials Development Center.

Hayward, B. J., Thomas, S. W. & Fiore, T. (1991). Preliminary research on vocational evaluation service delivery. In R. R. Fry (Ed.), Fifth National Forum on Issues in Vocational Assessment: The issues papers (pp. 259-261). Menomonie, WI: University of Wisconsin-Stout, Materials Development Center.

Hayward, B. J., Wine, J., Thorne, J., Stoddard, S. & Wilhite, J. (1992). Evaluation of vocational assessment procedures and the IWRP process used by state VR agencies: Executive summary. (Contract No. HR89035001). Research Triangle Park, NC: Research Triangle Institute.

Menz, F. E. (1983). Manpower needs in rehabilitation facilities: 1989-1990. Menomonie, WI: University of Wisconsin-Stout, Research and Training Center.

Menz, F. E. (1986, May). Community-based vocational rehabilitation facility manpower needs revisited: 1980 and 1984 survey findings compared. Paper presented to the Annual Conference of the National Association of Rehabilitation Research and Training Centers, Kansas City, Kansas.

Pelavin, D. C., Pelavin, S. H., & Celebuski, C. A. (1987). National assessment of personnel shortages and training needs in vocational rehabilitation. Washington, DC: Pelavin Associates, Inc.

Roberts, C. D., Oliveri, M. V., & Delmonico, R. L. (1989). National rehabilitation manpower needs assessment: 1984. Rehabilitation Counseling Bulletin, 32, 194-202.

Ugland, D. (1981). Minnesota rehabilitation personnel manpower survey: 1980-81. Journal of Applied Rehabilitation Counseling, 12, 156-159.

Shirley K. Stewart
Department Chair
Department of Rehabilitation
University of Wisconsin-Stout
Menomonie, WI 54751

Job Interviews under the Americans With Disabilities Act

Barbara L. Kornblau, JD, OTR, CIRS, DAAPM

Abstract

The Americans With Disabilities Act (ADA) imposes new limits on how employers may conduct themselves during the job interview process. Employers often face job applicants with disabilities without a clear understanding of these interview boundaries. Lack of experience on the part of the interviewers, places companies at risk for lawsuits if the interviewers ask applicants questions which are not permitted under the ADA. Interviewer, often inexperienced with individuals with disabilities, fail to focus the interview on the match between the job and the person.

This article explains how occupational therapists, vocational evaluators, and other rehabilitation professionals familiar with individuals with disabilities can help employers train their interviewers and supervisors in proper job interviews. Participants at the meeting viewed a videotape showing vignettes of an improper and and a proper job interview according to ADA standards. The paper presents specific do's and don'ts of the job interview under the ADA.

Introduction

"The Company" never expected to see an applicant like Mrs. Spotford apply for the CEO's secretarial position recently advertised in the local paper. Mrs. Spotford arrived on time for her appointment and passed the typing test with flying colors. She received excellent references from her previous employer and appeared to be the most qualified candidate.

What caused "The Company" to wonder about such a highly qualified candidate like Mrs. Spotford? Mrs. Spotford uses a wheelchair for mobility and has no use of one of her arms. Mrs. Spotford's condition raised numerous questions for "The Company". How could she perform all of her job duties from a wheelchair? What if she couldn't fit her wheelchair under the desk? How could she answer telephones with one hand? How would she reach the file cabinets? These questions may be answered through the job interview process.

The Americans with Disabilities Act (ADA) changes the way employers conduct themselves with respect to the job interview process. Before the ADA, individuals with disabilities were expected to conform to the employer's interview procedures. Now, under the ADA, companies must adapt their interview procedures to conform to the needs of individuals with disabilities. The interview process, like the job itself, must include the provision of reasonable accommodations to enable individuals with disabilities to participate on an equal basis.

The ADA requires other changes to interview procedures. Questions that many interviewers typically ask during a job interview or on a job application such as "Do you have a drivers' license?" or "Have you ever filed a claim for workers compensation?" - may no longer be permitted under the ADA. (Appendix to 29 CFR

1630.13, Interpretive Guidelines.) Questions one might be tempted to ask Mrs. Spotford, in our example above, based on one's level of discomfort such as "How long have you been disabled?" or "How did you get like this?" are also forbidden. (Appendix to 29 CFR 1630.13, Interpretive Guidelines.) Many of the attitudes and under lying assumptions about individuals with disabilities that in the past have prevented individuals from being hired must now be changed. Even the language interviewers use to refer to disabilities now needs to be changed to politically correct terminology.

Job Descriptions

One cannot look at the interview process in a vacuum. The interview process starts with the job description. Before advertising for a position, the job descriptions should be reviewed to make certain the advertisement for the position is an accurate depiction of the job. (Appendix to 29 CFR 1630.2(n), Interpretive Guidelines.) Essential functions should be the focus. Remember, essential functions are outcomes or tasks one is expected to complete in order to do the job. (Title I Technical Assistance Manual §2.3(a).) It is important not to confuse physical requirements with essential functions.

For example, transporting documents to the board meetings might be an essential function for a CEO's secretary. Carrying documents with two hands is **not** the essential function. The documents could be transported on a cart as a reasonable accommodation to someone unable to carry or someone who only has use of one arm. The first example looks at the expected outcome of the task rather than how it is performed, which is the focus of the second example.

Remember, individuals with disabilities can perform the ultimate outcome in different manners from the traditional way a task is performed. Individuals with disabilities may perform the task with an accommodations. Focusing on the "traditional" physical way the job is performed will screen out individuals with disabilities who can complete the task.

The next step in the interview process is the advertisement for the position. According to the Title I Technical Assistance Manual, if an employer puts a telephone number in an employment advertisement, it must also include a provision for applicants with hearing impairments unless a local relay service has been established. (Title I Technical Assistance Manual §5.2.) In other words, employers need to include in their advertisements, a phone number for individuals who communicate with TDDs or telecommunication devices for individuals with hearing impairments no rely service is available.

Once the position is advertised, at some point in the interview process, prospective applicants will begin calling for applications, for additional information or to arrange for appointments for interviews. Some human resource departments have had policies requiring applicants to fill out applications on premises to be sure that the applicant did in fact fill out the application himself or herself. This may be discriminatory under the ADA. Individuals with disabilities such as learning disabilities or visual impairments, may require the assistance of others in filling out their job application forms. Policy changes may be in order so an individual who does need assistance, may get that assistance from a friend or family member off the premises, without having to identify himself or herself as an individual with a disability.

Support staff in the human resource department will need to be educated about the ADA. Secretaries and clerks may find themselves in a position to provide assistance to an individual with a disability who, as a reasonable accommodation, needs assistance filling out the job application. (29 CFR 1630.9.)

The first phone call made to arrange an interview should be used as an opportunity to ascertain whether the applicant needs to be accommodated during the interview process itself. (Title I Technical Assistance Manual §5.5(F).) Does the interview need to be moved to an accessible location? Does the applicant require the services of a sign language interpreter? Will arrangements need to be made to give tests in an alternative format? These questions should all be answered and arrangements taken care of before the applicant even arrives. It is appropriate to ask applicants or interviewees on the telephone whether they will need to be accommodated during the interview process. (29 CFR 1630.9.)

Sensitivity & Disability Etiquette Training

Every one associated with the interview process, from receptionists on up through the personnel director, as wells as front line managers and supervisors who participate in interviews, should go through both sensitivity and disability etiquette training. (Kornblau et. al, 1992) Occupational therapists, vocational evaluators, and other rehabilitation professionals familiar with individuals with disabilities are good at providing this sensitivity and disability etiquette training. Individuals with disabilities may also provide this type of training.

An important part of sensitivity training is learning the politically correct terminology. Over the last 25 years, language has become a highly political issue. We have seen changes in the politically correct terminology used to refer to women, Native Americans, and Blacks or Afro-Americans. The same significance now lies with references to disabilities. While many vocational evaluators and rehabilitation professionals have kept current with these changes, employers need to be educated in the use of appropriate terminology.

Explain to employers that the ADA protects "individuals with disabilities". (29 CFR 1603.1(a).) The individual comes first and the disability second. Therefore, "disabled person" would not be acceptable. "Handicapped", from the British "cap in hand", dating back to the days when individuals with disabilities used a cap to beg, is no longer acceptable. Similarly, words such as "lame", and "crippled" are no longer acceptable. "Wheelchair user" is preferred over "wheelchair bound" or "confined to a wheelchair" since in reality, nobody is permanently bound or confined to a wheelchair.

Referring to a non-disabled person as "normal" is not acceptable because it implies that individuals with disabilities are "abnormal." Adding "ic" to a diagnosis such as "diabetic" is not appropriate. The preferred reference would be "an individual with diabetes. Please refer to the Table I for other "No-NO Terminology"

Sensitivity and disability etiquette training also includes learning how to interact appropriately with individuals with disabilities. How do you shake hands with an individual who doesn't have a right hand? How do you offer a blind person a chair? Since our society segregates individuals with disabilities, lack of experience with individuals with disabilities will often cause people in interview sensitive positions to say the wrong thing or act in a manner that is offensive to individuals with disabilities.

For example, many people have a tendency to raise their voices at an individuals merely because he or she is blind or in a wheelchair. Obviously, this is not appropriate where one does not have a hearing impairment. Some people think that everyone who has a disability is either deaf, blind or in a wheelchair. This is also not true since there are literally hundreds of disabilities.

Many people feel that individuals with disabilities need to be "helped" so they tend to go overboard offering much more assistance than the person needs or wants. For example, it is not appropriate to push someone else's wheelchair. There are many other common myths and misperceptions which affect the way we treat individuals with disabilities. The bottom line is that individuals with disabilities should be treated just like any other applicant. This may not be easy to do since most non-disabled people have little or no experience with individuals with disabilities. On the other hand, vocational evaluators and other rehabilitation professionals possess a wealth of knowledge about individuals with disabilities based on their experiences. Employers need this information. Vocational evaluators and other rehabilitation professionals can educate employers by sharing information that may seem obvious to the rehabilitation professional but foreign to the "lay person".

Here are some tips to share with employers. (Kornblau & Ellexson, 1992.) Always talk to the person - not the wheelchair the interpreter or the guide. Look at the person you are interviewing. The interviewee with a hearing impairment may be reading your lips. An interviewee who has no sight will be able to tell that you are not speaking directly to him or her. If you have a mustache, you should be aware that it may be more difficult to read your lips.

Remember to use politically correct terminology. Don't apologize for comments such as "Let's take a walk" to a person in a wheelchair" or "Do you see my point?" to an individual with a visual impairment or "I've got to hand it to you" to an individual who has no arms. Provide assistance only where requested. If you offer assistance and the person says "no", remember that "no" means "no".

Avoid patronizing statements such as "I admire your courage" or You've done so much for a person in a wheelchair" or "You are an inspiration". Don't trap yourself into thinking "If I were disabled, how would I feel?"

Put yourself on the same level as the individual in a wheelchair by sitting down during the conversation or interview. Don't complete sentences for an individual with a communication impairment. If you don't understand something said, ask the individual to repeat it or write it down.

Remember that an interviewee may not have a firm handshake because of his or her disability, a lack of confidence. Don't patronize the individuals with a disability with your own body language.

Do not make notes about a person's disability during the job interview. Discuss reasonable accommodations where possible. If the interviewer feels uncomfortable, let the interviewee know. Put the discomfort on the table and then you can get rid of it. It is appropriate to say for example "I have not interviewed many people with hearing impairments. I hope I do not make you feel uncomfortable by my lack of experience." This will put everyone at ease and allow you to get down to the business of the interview.

Questions: To Ask or Not Ask

Under the ADA, interviewers are not allowed to ask any questions about past or present illness, health, or disability, past drug or alcohol use, or workers compensation history. For example, it would not be permissible to ask how Mrs. Spotford how she lost use of her arm or why she uses a wheelchair. Interviewers must not ask questions that are calculated to identify an individual as an individual with a disability. Once an individual is identified as an individual with a disability, the company has an obligation to accommodate that person. It also stands on thin ice if it does not hire a person it would not have otherwise know was an individual with a disability. In short, under the ADA there is no advantage to accidentally finding out about an individual's disability.

Interviewers may not ask questions about family members or other associates who may have disabilities. For example, "who takes care of your husband when the nurse's aide doesn't show up?" is not allowed.

Questions that ask maximum limits such as "how much can you lift?" or "how much can you carry?" should be avoided. If the job requires lifting or carrying a 15 pound can of paint, asking the applicant maximums can lead to an answer such as "I have a 30 pound lifting restriction". This answer gives the interviewer a dilemma. First, the company only needs to accommodate disabilities he or she knows about. An obligation to accommodate may have arisen with the answer to that question. Further, if the employee is not hired, this question can strengthen any claim brought against the company since the interviewer did not hire the applicant after he identified the person as "disabled".

Interviewers should avoid questions about gap periods in employment. Typically, interviewers ask applicants what they did during the periods when they did not work. Under the

ADA, if interviewers ask this open ended question, they may get answers they are not entitled to have or that they don't want to know such as "I was out on workers compensation" or "I had a nervous breakdown" or "I was in a drug rehabilitation program" or "I was taking care of my sick child" etc. If the purpose of the question is to discover whether or not an individual is omitting information about a job, then ask the interviewee if he or she had any other jobs not listed. If contradictory information is obtained during the reference check, that can be dealt with.

Interviewers should not ask an individual how he or she will get to work. This may also identify an individual as an individual with a disability. Inquiring as to whether or not an applicant has a driver's license can also identify a person as an individual with a disability. Unless driving is an essential function of the job that cannot be eliminated or accommodated, this question should not be asked.

What can you ask an applicant during a job interview? How can you find out if the interviewee is qualified for the job? Every interviewer should have a copy of the job description at his or her fingertips during the interview. The job description is a working document that guides the interviewer though the interview. Questions should be worded in a positive manner to ascertain the applicants abilities- not disabilities. Questions should be based on the job's requirements and the match between the job and the applicant.

The interview should be an exchange of information where the interviewer gives the interviewee as much information as possible. This information allows the interviewee to determine whether he or she can do the job or if he or she needs to be accommodated. In some situations, the information exchange may cause the applicant to self-select out of a position. For example, asking an applicant who has epilepsy if he can work around flashing lights may cause this person to select out if flashing lights trigger his seizures.

The interviewer should look at the job description and pull questions directly from it. Here are some examples of questions designed to get tot the heart of the job:

1. Have you held a job like this in the past and were you able to perform all of the duties.?
2. Would you be able to keep up with the production standards for this position?
3. Do you have reliable transportation?
4. The job you are requiring for requires emptying trash receptacles at the park weighing up to 50 pounds when full by lifting them waste high and dumping them into a dumpster. Are you able to do that?
5. Are you able to climb a ladder? (to a painter)
6. Can you work around cleaning fluids?
7. Can you work in the sun or in the heat for periods of up to 3 hours?

Interviewers may ask an applicant how he or she would accomplish a task. For example, it would be permissible to ask Mrs. Spotford how she would do the filing or how she would answer the phone and take messages at the same time with the use of only one arm. Rather than making incorrect assumptions about an individual's ability to perform a task, the ADA allows the interviewer to simply ask the applicant to explain or show the interviewer how he or she would perform the task.

More information on the job interview process, is available in a training video available from ADA Consultants, Inc., "The Path to ADA Compliance: The Job Interview." The video presents a "what not to do" job interview followed by a "how to do it right" interview with an individual with a disability most interviewers are not familiar with. The accompanying manual dissects the "bad interview and offers lists of questions permitted and not permitted under the ADA. Viewers see the applicant typing with a mouth stick, writing with a pen in her mouth and driving with an adapted foot wheel. This video was presented at the Issues Forum.

Employers should review their interviewing procedures to see that they comply with the ADA. Accurate functional job descriptions and sensitivity and disability etiquette training will be key elements in any interview compliance program. By focusing the interview on the job in question and not on the disability, interviewers should be able to hire qualified candidates for their companies.

Table I

"NO NO Terminology"©

Crippled
Lame
"Afflicted with..."
"Suffering from..."
"Victim of...."
"Stricken with"
"Wheelchair-bound"
"Confined to a wheelchair"
Bedridden
Moron
Idiot
Retard
Retarded
Spas
Spastic
Handicapped / "The Handicapped"
"Deaf and dumb"
Mute; "Deaf-mute"
"Vegetable"
Midget
Hard of hearing
"Normal"
"Epileptic";
"Quadriplegic" etc.
Abnormal
Limited

"Cerebral Palsied"
"Arthritic"
Sick
Diseased
Unfortunate
Courageous
Gimp
"Patient" ("Wheelchair Patient")
"Amputee"
"Quad"; "Para"
Mangled
Deformed
Disabled/able-bodied
Peg leg
Dwarf
Maimed
"Out to Lunch"
Scared
"Victim" ("Burn or Stroke Victim")
Invalid
Crip
Defective
" Charity or Charity case"
"Four eyes"
Poor

References:

Americans With Disabilities Act, Pub. L. No. 101-336, (1990) 42 USC 12101 et seq.

29 CFR 1630.1 et seq., 1991 - Regulations to Implement the Equal Employment Provisions of the Americans With Disabilities and Appendix, Interpretive Guidance

Equal Employment Opportunity Commission *A Technical Assistance Manual on the Employment Provisions (Title I) of the Americans With Disabilities Act*, EEOC, (Washington D.C., 1992)

Kornblau, Barbara L., Ellexson, Melanie, ADA Consultants, Inc., *"The Path to ADA Compliance: The Job Interview."* a video and accompanying manual, 1992

Kornblau, Barbara L., Ellexson, Melanie, & Martin Soll "Implementing the Americans With Disabilities Act - A Practical Approach", Florida Bar *Journal*, January, 1992.

Kornblau, Barbara L., Ellexson, Melanie, *What Every Rehab Professional In The USA Should Know About The ADA*, January, 1992, ADA Consultants, Miami, Florida

Author:
Barbara L. Kornblau, JD, OTR, CIRS, DAAPM
ADA Consultants, Inc.
P.O. Box 431455
South Miami, Florida 33243-1455
Tele (305) 666-4714

FACILITATING SELF DETERMINATION: A FEMINIST PERSPECTIVE ON VOCATIONAL EVALUATION.

Linda Mathias Kaskel, MA, CVE, CRC
Jill R. Oppenheim

Abstract

Feminist approaches in counseling, psychology and social work have been available for several decades. However, there is lack of such material in the vocational evaluation literature. A feminist paradigm can be a framework for consumer self determination. In addition to reviewing the elements of a feminist paradigm, this paper will offer some practical suggestions for incorporating the paradigm into one's own practice.

Gerda Lerner defines self determination as: "being free to decide one's own destiny; being free to define one's social role; having freedom to make decisions concerning one's body" (Lerner, 1986, p. 237). This definition suggests self-choice. It implies having the information and support necessary to make those choices. Feminist theory, historically and currently, has five major elements at its core. These five elements define a feminist paradigm:
(a) power analysis, (b) holistic perspective,
(c) validation of personal experiences,
(d) process is as important as outcome, and
(e) empowerment.

The first element that is found in all feminist theory is the necessity to determine where power lies in any system. Most often it is the analysis of this power differential that will show the "politics" of the system, the way the system works. Success is nearly impossible if there is no understanding of the past or existing power struggles. You can only change something if you understand that it needs change or that change is possible. The analysis of the power differential may also help to indicate what process one might use to facilitate this change.

Another feature of the feminist perspective is that it is holistic in nature. People do not exist in isolation. We are only able to achieve as individuals through our interaction with others. Human beings are complex creatures. We are, and effected by, all of the ways we define ourselves. All of our needs must be met to allow us, as people, to reach our full potential in deciding our destiny and defining our social role. If we experience strife in our personal lives it tends to effect us in our professional lives. If we are physically ill, as in having a debilitating illness, our mental state is effected.

Just as we are effected by all the ways we define ourselves, we are also affected by the sum of our life experiences. Validation of those experiences leads to a validation of self. What we have experienced makes us who we are. Validating one, validates the other. These personal experiences often lead us in defining our social role. Validation of this experience is empowering.

The feminist paradigm holds that process is as important as outcome. This means that the way we get our needs met is as important as that we get them met. Having someone do everything for you provides the same outcome as doing it for yourself. The price paid however is high - less satisfaction and no boost to self-esteem. If the process is not empowering, the outcome has little to with self determination.

All of the four aforementioned elements; examination of power differentials, process, validation and holistic approach provide the fifth element of the feminist framework, empowerment. The examination of the process and participation in that process allow for getting what one needs in the most empowering way. Taking part in the process leads to maximum satisfaction. The examination of who one is as a person, the sum of one's experiences, validates those experiences and therefore, validates self. The examination of what one needs pushes one to try and meet theirs needs in all areas of their life. These four elements feed empowerment. Through this paradigm empowerment, as support, feeds self determination.

This is not a linear model. A feminist framework is necessary cyclical. All of these elements support and intertwine making infinite combination to further self-determination. This paradigm lends itself to the social services sector. It is an empowerment model, especially important in the field of rehabilitation where systems are typically not set up to empower consumers. It is also easily adopted to the process of vocational evaluation.

There is a growing base of literature in social work, psychology and counseling integrating feminist paradigms into theory and practice (Bowen, Bahrick & Enns 1991; Burman, 1990; Chaplin, 1988; Chrisler & Howard, 1992; Fowler, O'Rourke, Wadworth & Harper, 1992; Gutierrez, 1991; Lonsdale, 1990; McWhirter, 1991). However, there is a significant absence of such material within the vocational evaluation publications. Let us consider the traditionally accepted definition:

> Vocational evaluation is a comprehensive process that systematically uses work, either real or simulated, as the focal point for assessment and vocational exploration, the purpose of which is to assist individuals in vocational development. Vocational evaluation incorporates medical, psychological, social, vocational, educational, cultural, and economic data into the process to attain the goals of evaluation (Fry & Botterbusch, 1988 p. 14).

This definition can also be considered within a feminist paradigm. A feminist analysis of the definition of vocational evaluation must chiefly focus on those aspects that empower people with disabilities. Within a feminist definition, vocational evaluation is a holistic process that incorporates numerous elements of information. The process of vocational evaluation becomes as important as the outcome. The definition validates the personal experiences of consumers with disabilities by considering the social and economic aspects.

The Vocational Evaluation Process

It is critical that the person with a disability and the evaluator engage in the process of vocational evaluation as partners. Between the partners, there needs to be a shared perception of equality throughout the entire process. This process can be conceptualized as beginning with an initial interview and evaluation planning; continuing through the assessment and career exploration; and concluding with the development of recommendation and a plan of action being formulated.

Initial Interview

In an ideal setting, the interview would be conducted in a neutral power territory. In other words, the evaluator would not be sitting behind a large desk but rather side by side at a table away from the phone and other distractions. During the interview, the consumer would gather sufficient information to decide about participating in the vocational evaluation. The consumer with a disability may want to consider if the setting is accessible for her needs. She may need to feel comfortable with the evaluator as an adequate "tour guide" for this vocational exploration. In addition to gathering a psychosocial history about the consumer, the evaluator may need to clarify values and attitudes about the evaluation. When exploring the previous educational training and paid work experience of the consumer, the evaluator needs to consider those skills that may have been developed by the consumer through non-traditional vocational activities such as homemaking and child rearing activities. The interview needs sufficient time to allow for discussion and agreement upon the process and purpose of the vocational evaluation.

Evaluation Planning

Upon agreement to the purpose of the vocational evaluation, the evaluation plan is developed. The evaluation plan should include the questions needed to be answered during the evaluation period. For each question that is to be answered, the test/procedure which is to be used to answer the question, and modifications to be used need to be cultivated by the partnership. While developing this plan the partnership needs to consider the consumer's expressed vocational goals, previous experiences, and functional limitations. The evaluation plan also needs to include the rights and the responsibilities of each partner. The consumer has the right to have each test or procedure explained to in terms that can be understood before any procedure is attempted. Before beginning it is important that each partner involved understand the purpose and content of each instrument. The length of the evaluation needs to be individualized to accommodate the needs of the consumer. For example, a woman should not be considered unsuitable for evaluation services, when she requests an evaluation of half days to allow her to be at home when her children leave for school or get home.

Assessments

Utilizing a feminist paradigm, the partners choose the assessment instruments together. Suggestions for modifications and adaptations are reviewed together by the evaluator and the consumer. The evaluation results need to be considered with regard to the applicability of the published norms. For example, should a woman be measured against an all male norm group, disabled norms, or general population norms? In contrast to more traditional vocational evaluation, in this paradigm the feedback interview would be scheduled to occur prior to the final report being written and the staffing being held. The partners need to have enough time to review the purpose of the evaluations, response to the process, and the summary of the results restated in terms of the expressed and tested vocational goal.

Career Exploration

Information is available that describes the nature of the work, the work environment, physical demands, employment qualifications, tools and equipment, and preparation needed for various occupations. While it is important to include this type of information in the career exploration process, the material must be reviewed cautiously. Does the data presented support stereotypes or limit the roles of people with disabilities (i.e. gender, ethnicity, age, etc.)?

In addition to the conventional occupational publications (e.g. Dictionary of Occupational Titles, Occupational Outlook Handbook, Guide for Occupational Exploration, Encyclopedia of Careers and Vocational Guidance), it is important to locate materials that consider the unique role of each individual in the work force. The choice of written material available should also include positive role models, legal information and resources. For example a library of materials could contain information about labor organizations, equal opportunity legislation, sexual harassment policies, minority/women owned business, financial aid resources, and self help/support groups in the community.

Recommendations

Upon completion of the assessment and career exploration it is important to identify the full range of services needed to achieve the agreed upon goals. This information is often conveyed through a vocational evaluation report. The evaluation report needs to be composed by the partnership and reviews the evaluation process. The report can include; the reason for referral, critical background information, interpretation of results, summary of the evaluator's and consumer's impressions, summary of strengths and limitations, and recommendations for a plan of action.

Before a plan of action can be completed, data about the consumer's medical, psychological, social, vocational, educational, cultural, and economic situation must be considered. Each of this areas can affect the options and choices for self-determination. Here, as an example, we will consider two major aspects affecting women with disabilities.

Social Aspects. The overlapping social effects of being female and having a disability in the United States creates a double minority status.

> The position of the disabled women is inextricably linked with the position of disabled people and the position of women, disabled and nondisbled. The devalued roles of women and disabled persons create the rolelessness experienced by disabled women in the United States. The disabled woman confronts the sexism experienced by most women, but is deprived even of fragile pedestal on which nondisabled women are often placed (Fine & Asch, 1981, p. 245).

Lonsdale (1990) reported that more women than men are likely to experience physical disability or a limiting, long standing illness. Females report higher percentages of physical functional limitation for all age groups (Kraus & Stoddard, 1989). A 1986 Harris poll found that 56% of disabled are female, however only 46% of females with disability are working. While there are more woman than men that have disabling conditions, there are less socially sanctioned roles for women with disabilities. The repercussion of this may result in "systematic rolelessness" based on negative self-image, social discrimination and economic hostility (Fowler et al, 1992).

Economics. A significant part of independence and self determination is based on adequate income. However, unemployment among people with a work disability is more than twice that of their nonwork-disabled counterparts for men and women and for each race or ethnic group. Earnings for people with a work disability continue to be lower than earnings for those individuals with no work disability and people with a work disability are much more likely to be below the poverty level (Kraus & Stoddard, 1991). Furthermore, people with a work disability are three to four times less likely to work full time year round and are less likely to be managers or professionals (Kraus & Stoddard, 1989). The economic impact of these statistics for women with a work disability is even more severe when one considers the gender inequality in the American labor market. Women with a work disability are more likely to be below the poverty line (Russo & Jansen, 1988). Moreover, women receive less public welfare benefits, and the award is less generous (Kutz, 1988). In addition, a women who has been disabled for much or most of her life will have had fewer opportunities to build up an adequate retirement income (Lonsdale, 1990).

Rehabilitation services grew out of a need to assist injuried soldiers returning from war. These programs have unserved the needs of women with disabilities, especially older women who hope to return to the labor market after raising a family (Somerville, 1980). Combined with occupational segregation, the rehabilitation outcomes for women are limited (Menz, 1989). Danek and Lawrence (1984) report that among successful closures in state agencies, women were more successful in obtaining jobs; however, they were more frequently placed as homemakers. Further, of these women placed as homemakers, approximately one-half did not have homemaking as a vocational goal.

Implications

When placed within a feminist framework, the vocational evaluation process looks slightly different. The concept of being partners with our clients instead of doing things for them dismisses the inherent power differeintital. When we plan cases together and devise recommendations as a partnership we allow for empowerment. Providing non-traditional information during career exploration means personal experiences are valued. Examining not just the medical, educational and psychological data but also the cultural, social and economic aspects of our clients keeps our perspective holistic and necessitates a focus on the multiple role expectations we, as diverse people, command. Vocational evaluation as a feminist process is empowering and effective for both partners.

Power differential

Many established vocational evaluations occur in settings that do not support equal distribution of power between the consumer and the evaluator. Think of our own settings, are they areas where power of decision and self-determination can be shared? Do programs provide services or facilitate services?

Holistic perspective

People are diverse, a single label can not describe consumers as a disability or a gender. Vocational evaluation needs to identify and build upon existing strengths by incorporating the many aspects of the consumer. For example, the evaluation and subsequent program plan can address issues of personal growth (e.g. self-image and self-esteem) as well as career development.

Valuing the personal experience

Consider interventions that focus on the multi-role expectations of consumers. Many consumers have personal experiences that are never considered in a more narrow focused evaluation. The organizational skills, financial capabilities and food management abilities acquired while raising a family are not fully explored. Coalitions, self help organizations and support groups can be outlets where people can share and learn from these experiences.

Process as outcome

The use of test-retest methods and/or more than one evaluator may enrich the process and thereby increase the benefits to the consumer. The results of the evaluation can provide useful feedback throughout an individual's lifetime rather than the beginning of a specific program. The evaluator and the consumer need to be creative and flexible partners throughout the process.

Self determination through empowerment

The vocational evaluation process can be an opportunity to choose one's own destiny, determine one's social role, and have the freedom to make decisions concerning one's body. However, new services and alternative sources of funding that are directed by and for consumers are critically needed. As partners, vocational evaluators should be advocates and consumers need to be self advocates for these resources.

REFERENCES

Bowen, N.H., Bahrick, A.S., & Enns, C.Z. (1991). A feminist response to empowerment. Journal of Counseling and Development, 69, 228.

Burman, E. (1990). Feminists and Psychological Practice. Newbury Park: Sage Publications.

Chalin, J. (1988). Feminist Counseling in Action. Newbury Park: Sage Publications.

Chrisler, J. C., & Howard, D. (1992). New Directions in Feminist Psychology: Practice, Theory and Research. New York: Springer Publishing Company, Inc.

Fine, M., & Asch, A. (1981). Disabled women: Sexism without the pedestal. Journal of Sociology and Social Issues, 8(2), 233-248.

Fowler, C., O'Rourke, B., Wadworth, J., & Harper, D. (1992). Disability and feminism: Models for counselor exploration of personal values and beliefs. Journal of Applied Rehabilitation Counseling, 23(4), 14-19.

Fry, R.R. & Botterbusch, K.F. (1988). VEWAA Glosary. Menomonie, WI: Material Development Center.

Gutierrez, L. (1991). Empowering women of color: A feminist model. In M. Bricker-Jenkins, N.R. Hooyman, & N. Gottlieb (eds.) Feminists Social Work Practice in Clinical Settings. Newbury Park: Sage Publications.

Harris & Associates. (1986). The ICD survey of disabled Americans. New York: Author.

Kraus, L. E. & Stoddard, S. (1991). Chartbook on disability in the United States. An InfoUse Report. Washington, D.C.: National Institute on Disability and Rehabilitation Research.

Kraus, L. E. & Stoddard, S. (1989). Chartbook on disability in the United States. An InfoUse Report. Washington, D.C.: National Institute on Disability and Rehabilitation Research.

Kutza, E.A. (1988), Benefits for the disabled: How beneficial for women? In M.J. Deegan & N. A. Brooks (eds.) Women and Disability: The Double Handicap. New Brunswick, N.J.: Transaction Books.

Lerner, G. (1986). The creation of patriarchy. New York: Oxford University Press.

Lonsdale, S. (1990). Women and disability: The experience of physical disability among women. New York: St. Martin's Press.

McWhirter, E.H. (1991). Empowerment in counseling. Journal of Counseling and Development, 69, 222-227.

Menz, F.E., & Gilbert, M.R. (1987). Gender-bias in synthesis and formulation of recommendations from vocational evaluation. Vocational Evaluation and Work Adjustment Bulletin, 20, 135-142.

Russo, N.F. & Jansen, M.A. (1988). Women, work, and disability: Opportunities and challenges. In M. Fine and A. Asch (eds.) Women with Disabilities: Essays in Psychology, Culture, and Politics. Philadephia, PA: Temple University Press.

Somerville, P. (1980). Women in Employment Rehabilitation Centres. Employment Rehabilatation Research Centre, Information Paper no 7. Great Britian: HMSO.

Authors:
Linda Mathias Kaskel
6635 N. Mozart
Chicago, IL 60645

Jill R. Oppenheim
Chicago Association for
Retarded Citizens (CARC)
7919 S. Ashland
Chicago, IL 60620

ADA Compliance: To Screen or Not To Screen?

Melanie T. Ellexson MBA,OTR,FAOTA

The Americans with DISABILITIES Act (ADA) places new restrictions on the physical capacity-type testing which employers may use in making hiring decisions. Under the ADA, employers may no longer conduct pre-employment medical tests or physicals, inquire about medical or workers compensation histories or seek information about an applicant's disability.

Employers need to find new ways to legally acquire information about how an individual can perform the essential functions of the job and the match between the applicant's abilities and the job's requirements. Under ADA, the type of testing which may be performed depends on whether the testing is performed at the "pre-offer stage," before an offer is made, or at the "post-offer stage" after the employer has made an offer to the applicant.

During the "pre-offer stage," the ADA allows employers to perform agility tests to assist in making hiring decisions. Agility testing must be simple agility test and may not be a medical test or include a medical diagnosis. While vocational evaluators are permitted to perform agility testing as non-medical personnel, there are some draw backs to expanding into this area of testing.

Through the agility testing process, the evaluator may discover confidential medical information about the individual's disability that becomes evident as the evaluator watches the applicant proceed through the testing. For example, the evaluator might notice that an applicant walks with a limp and discovers that he or she has a prosthetic leg.

At the "post-offer stage" the testing rules change and are more liberal. Evaluators may inquire into more in depth medical information on the applicant but the medical information must be treated within certain confidentiality guidelines. Testing criteria which will be used for making placement decisions must be job related and consistent with business necessity.

The Question:

Is there a place for pre-placement screening now that the ADA is in effect? Many occupational health and rehabilitation experts agree that, while pre-screening may be administered more selectively, the demand will remain.1

Increased emphasis by regulatory agencies, eg OSHA,ANSI, on proper placement, ergonomic matching and accommodation in the workplace support post-offer/pre-placement assessment.

The form that post ADA pre-placement screening take may differ from what has been common practice. These evaluations, when performed by occupational therapists, will be considered medical assessments. They can be provided after a conditional offer of employment has been made, but before that offer is confirmed. Pre-placement screens do not have to be job related; however, if they screen out an individual with a disability, then the reason for disqualification must be job related and of business necessity.2 This "legal" double-talk simply means that while a variety of testing my be included in the evaluation only those specific test items which are job related and of business necessity can be considered when qualifying a person for the job.

An essential function must be a task defining the reason the position exists. Essential functions describe the work to be completed, the outcome of the task, not the manner in which a tasks is usually performed. An essential function for an occupational therapist might be to assess range of motion. The essential function would not be "to move the patients arm through a range of joint motion".

A job related activity must be a legitimate measure of qualifications for a specific job. It is not enough that a test item measure qualifications for a general class of jobs. If a test or other selection criteria, eg strength, does not relate to the essential functions of the specific job, it is not consistent with business necessity.3 Requiring an individual to lift 80 lbs. from floor to waist would not qualify as being work related and of business necessity if the actual work related essential function required a lift from 10" off the floor to 36" off the floor.

Job Analysis

This example demonstrates why a very thorough job analysis must be completed prior to developing pre-placement testing protocol for each job. The job analysis information necessary for developing the protocol should include a description of each essential function, the physical requirements of each function, the workplace measurements of tools and equipment, the frequency with which the function is performed, the usual amount of time required to perform the function, the number of other people involved in performing the function, and any safety or protective equipment necessary to carry out the function.4

Protocol Development

The essential functions can then be ranked to determine which should be included in the pre-placement protocol for that specific job. One way to rank the functions is to consider several key issues. The first issue is risk. Risk is defined by OSHA as a measurement of force, distance and repetition.5 Those essential tasks determined to be high risk should be included in the pre-placement screen. The second consideration is frequency. Those tasks performed most often should be included in the testing. The third issue is to identify those tasks which have a high rate of injury. this information can be obtained from OSHA 200 logs or other company records. If a job has only a few essential functions all may be included in the screening.

Baseline Data

Collection of base line data is an important part of the pre-placement screening process and should be carried out prior to functional testing. Baseline data is collected for three reasons. First to assure safety in administering the functional portion of the screen. Abnormal strength, flexibility or range of motion should alert the evaluator that some accommodation in functional testing may be necessary. The ADA requires that all individuals in a job class be evaluated; however, it does not require that the scope of the evaluation be identical.6 This allows for some flexibility in base line data collection to ensure a thorough evaluation of problem areas.

A second reason for collecting base line information is to have a benchmark against which future injury can be measured. In many states the worker's compensation law requires return to a pre injury level of function. For example, the law may not require that an injured worker be returned to full range of shoulder motion if they were lacking 15 degrees of shoulder flexion prior to their injury. This also means that employers cannot demand "100 percent" before allowing an individual to return to work if, indeed, they were able to carry-out the essential functions of the job with the pre-existing deficit.

The final reason for collecting baseline data is to obtain the information necessary to make reasonable accommodations and to explain to the individual being tested why they are unable to complete a particular task. Recommendations for improving strength, range of motion or flexibility may be provided by the evaluator dependent upon policy and agreement with the contracting employer.

Testing Endurance and Repetition

A typical pre-placement screen will last between 45 minutes to one hour. For this reason , information collected through baseline testing and the simulation of essential functions provides employers with information about the workers present ability to perform but does not predict risk of future injury and the effects of repetitive labor are not tested. The time necessary to test endurance and repetition is prohibitive and would be too costly for most employers to consider. While there are systems and high tech equipment which suggest that performance at certain levels is indicative of longer term function, it is the authors experience that these "inferential leaps" have no place in ADA compliant pre-placement screening. These limitationa should be clearly explained to employers prior to development of pre-placement screening protocol to assure that there are no unrealistic expectations of the information obtained from the screen.

Record Keeping and Confidentiality

All information obtained from post-offer pre-placement screens must be collected and maintained on separate forms from any other personnel records. The information must be kept in separate "medical" files and treated as a confidential medical record.7 This means that the information is maintained in a locked cabinet away from personnel files and is accessible only to designated individuals. The information obtained from a pre-placement screen may be utilized on a need-to-know basis in order to make reasonable accommodations or to assure specific safety precautions. The information may be provided to state worker's compensation offices or second injury funds and under some circumstances, to insurance companies where the company requires examination to provide health or life insurance. The information obtained in pre-placement screening may be released, and may become very critical, to government officials investigating compliance with these ADA or other federal and state regulations.8

The law allows evaluators to release information to employers that's related only to the workers performance of the essential functions. Findings of baseline testing or findings related to any physical abnormality may not be released directly to the employer. Baseline information may be provided to a designated company physician or occupational health care provider. The evaluator should maintain screening results as a permanent medical record within their system making it available on a need-to-know basis as described in the law. The maintenance of the medical record for the company is often a service appreciated and needed by employers.

Summary: The Answer

There is a place for pre-placement screening under the ADA. The format will include baseline data collection which may utilize high tech isometric or isokenetic equipment and job related simulations of the essential job functions. The screens should be based upon a functional job analysis that thoroughly evaluates all essential job functions. Pre-placement screens, when provided by occupational therapists and other health care providers, will be considered to be medical evaluations under the ADA and will therefore be administered after a conditional offer of employment has been made. While results of such screens must be treated as confidential medical information there is much support for utilizing this information to make reasonable accommodations, support or disprove discrimination claims, provide necessary information to private and state insurance agencies and to assure work place safety.

References

1. O'Hara, K. (1992). ADA Seminar Panel Forecasts Changing Times. Visions, Vol. 2, NU 6, pp. 4-5

2. Equal Employment Opportunity Commission. (1992). A Technical Assistance Manual On The Employment Provisions (Title 1) of The Americans With Disabilities Act (EEOC-M-1A) Washington DC: US Government Printing Office, V1-6.1

3. Equal Employment Opportunity Commission. (1992). A Technical Assistance Manual on The Employment Provisions (Title 1) of The Americans With Disabilities Act (EEOC-M-1A) Washington DC: US Government Printing Office, IV-4.3(1),(2)

4. Kornblau, B., Ellexson, M. (1992) What Every Rehab Professional in the USA Should Know About the ADA: A manual. (Available from ADA Consultants, Inc. P.O. Box 431455 South Miami Florida 333243-1455, pp 44-47

5. Occupational Health and Safety Administration. (1986). Appendix A: Guidelines for CSHO Evaluation of Back Injuries During Inspections (OSHA Notice CPL 2), Washington DC: Directorate of Field Operations, p A-2

6. Equal Employment Opportunity Commission. (1992). A Technical Assistance Manual On The Employment Provisions (Title 1) Of The Americans With Disabilities Act (EEOC-M-1A) Washington DC: US Government Printing Office, V1-6.4

7. Equal Employment Opportunity Commission. (1992). A Technical Assistance Manual On The Employment Provisions (Title 1) Of The Americans With Disabilities Act (EEOC-M-1A) Washington DC: Us Government Printing Office, V1-6.4

8. Equal Employment Opportunity Commission. (1992). A Technical Assistance Manual On The Employment Provisions (Title 1) Of The Americans With Disabilities Act (EEOC-M-1A) Washington DC: Us Government Printing Office, V1-6.5

STANDARDS FOR BEST PRACTICE IN VOCATIONAL ASSESSMENT AND EVALUATION, AN OPPORTUNITY FOR INTERDISCIPLINARY INPUT

Lynn Dowd, CVE; Geri Harrand, CVE; Dana Schuster, CVE; Richard H. Welles, Jr., MS
Moderated by Juliet Fried, Ed.D. CVE, CRC

Abstract

Vocational evaluators from four states presented models of best practices in vocational evaluation and assessment. The models were the product of various approaches used to define practice. Following the presentations, a group discussion involving the presenters and the session participants was held. The content of the session is condensed and synthesized here for the reader.

History

Models of best practices in vocational evaluation and assessment were presented by rehabilitation professionals from Virginia, California, Maryland, and Colorado.

Work on the four models was initiated in each of the states in the mid to late 1980's, and all models grew to various stages of development along separate, but somewhat similar paths. All participants described the process as being extremely challenging and time consuming, whether they worked with vocational evaluation peers or representatives of other disciplines during the development period.

Colorado's and Virginia's document was authored by vocational evaluators although Virginia did get input from their Quality Assurance Division, the Assistant Commissioner of Client Assistance Services, Special Client Services and Woodrow Wilson Rehabilitation Center. California's effort resulted from work with occupational therapists and vocational evaluators. Maryland's result was the product of one vocational evaluator, four rehabilitation counselors in private practice, two plaintiff's attorneys and a rehabilitation nurse employed by an insurance company.

Purpose

Worker's Compensation issues in California, Colorado and Maryland provided the major impetus for the development of the standards documents in those states, but Virginia's impetus was initiated by an internal effort.

Virginia's standards document was developed by the Chief Evaluators in the Department of Rehabilitative Services, (DRS) a state agency. Its purpose was to assure that quality standards were upheld by vocational evaluators in that agency and by the various facilities operated by DRS.

Colorado VEWAA developed its standards model for the purpose of educating consumers to the definition of quality vocational evaluation services; to contrast vocational evaluation and assessment; and to describe which human service professional is qualified to provide services at the various levels of assessment, including vocational evaluation.

Maryland's document was developed to expand on information contained in an earlier publication by a joint task force on rehabilitation of the injured worker. That document addressed vocational assessment in a cursory way and, because there were still problems in the field (confusion over terminology, assessment services being applied inconsistently, and poor quality services), a more comprehensive and detailed document was developed.

In California, the 1989 workers' compensation reform resulted in a directive to the State Rehabilitation Unit to "promulgate" standards for the provision of vocational rehabilitation services. California VEWAA assisted this process by drafting a comprehensive document defining evaluation/assessment/adjustment services outlining the components, and identifying areas of knowledge essential for service providers. The overall goal was to provide information to enable consumers to better utilize evaluation services and to encourage practitioners to maximize the quality of their work.

Definitions

Colorado and Maryland used VEWAA's standard definitions of vocational evaluation and assessment, and described accepted or traditional standards for the evaluation/assessment process in their manuals. California began with VEWAA's definitions and then modified or expanded them by incorporating information from CARF, CCWAVES, APA, prominent occupational therapy literature and practitioner experience.

Virginia's definition of vocational evaluation combined some elements of VEWAA's definition; included parts of the "screening" and "clinical" levels of VEWAA's definition of assessment, and added original content. Virginia's approach focused more on services and outcomes, and appeared to steer clear of outlining specific process. In Virginia's definition, the term "vocational evaluation" was the generic term and "assessments" were sub-titles. This is in contrast to VEWAA's approach to the terminology whereby "assessment" is the generic term, and "vocational evaluation" is a sub-title.

Content

California attached time-specific standards to the delivery of rehabilitation services. California utilized their previously established module system for evaluation which addresses services from a time-frame perspective (for example, 6-hour, one, three, five and ten-day modules). This method was developed as a cost-containment measure. No time frames were attached to either Virginia's, Colorado's or Marvland's models.

Virginia outlined three types of approaches: the "Comprehensive Vocational Evaluation", the "Special Assessment" which responds to a basic question regarding a single trait or aptitude, and "Consultations". "Consultations" respond to questions regarding interpretation of existing data and, in most cases, the individual is not seen.

Role delineation in the various service areas was outlined explicitly by Colorado's document. Using VEWAA's definition and hierarchy of levels of assessment (screening, clinical, and vocational evaluation), the document stated that qualified vocational evaluators could provide service at all three levels of assessment, and only qualified vocational evaluators could provide services at the most comprehensive level, vocational evaluation. California described the responsible professional within each service area. Maryland and Virginia did not address this issue directly. In Maryland, role delineation was addressed by another committee of the Joint Task Force - the Credentialing Committee. Thus, there was not a need to address it in this document.

Group Discussion

Discussion following the four presentations indicated that members of the audience also had concerns about the need for standards in the delivery of vocational evaluation/assessment service in their areas. At the same time, concerns were voiced that a "cook-book" approach was not a desirable means of achieving higher levels of practice.

The problems and pitfalls of outlining service standards by definition were discussed as a result of the Colorado experience. Colorado practitioners stated they were unhappy with the definitions of vocational evaluation and assessment. In fact, Colorado expressed the opinion and gave examples of how the present VEWAA definitions and the structure of the vocational evaluation/assessment hierarchy is limiting and damaging to vocational evaluation practice. Suggestions were made that perhaps standards should arise from outcomes, rather than processes or definitions.

Members participating in the discussion reached consensus regarding the need for and value of a national model or standards of practice for vocational evaluation and assessment. They were unanimous in stating that the development of standards should not be left to legislators and felt that if an interdisciplinary approach could be used, the result might be more acceptable. However, questions arose as to whether individual professions involved in an interdisciplinary project would allow the document to get specific enough to have meaningful standards.

Geri Harrand
VEWAA-Marketing
3925 Hermitage Drive
Colorado Springs, CO 80906

The Controversy Over the *GATB*

Donald A. Kates, M.S., C.R.C., C.V.E.
University of Wisconsin-Madison
Goodwill Industries of Southeastern Wisconsin, Inc

Fong Chan, Ph.D., C.R.C.
University of Wisconsin-Madison

Abstract

Within the last few years, controversy regarding the appropriateness and fairness of the *General Aptitude Test Battery* (*GATB*) as a psychometric tool has resulted in confusion among individuals using the measure for vocational evaluation purposes. Consequently, the controversy has had a direct impact on it's use in vocational evaluation. This paper will discuss the controversy, traditional uses, and psychometric qualities of the *GATB* as well as the findings of a recent study on the *GATB* by a National Research Council Committee.

Introduction

Among the four major approaches in vocational evaluation (psychometric testing, job analysis, work samples, situational assessment), psychological or psychometric testing has been frequently criticized for it's low predictive validity. Despite the criticism, this type of testing has several distinct advantages over the other approaches (Berven, 1979; Botterbusch & Michael, 1985). Specifically, psychometric assessment provides vocational evaluators with standardized, objective indices of work-related cognitive, psychomotor, and affective traits in a quick and inexpensive manner (Berven, 1979; VEWAA, 1975). Therefore, psychometric testing is frequently used early in the vocational evaluation process to obtain baseline information about an individual client and to provide direction (hypothesis formulation) for subsequent assessment efforts.

One form of psychometric assessment is aptitude testing. This type of testing is characterized by the use of various aptitude measures such as the *General Aptitude Test Battery (GATB)* or the *Differential Aptitude Test (DAT)*. By measuring various vocational aptitudes, the results can be compared to Occupational Aptitude Patterns that the U.S. Department of Labor suggests are related to various jobs. Along with specific vocational interests, a list of jobs balancing the client's needs and abilities can be generated by cross-referencing jobs identified through aptitude matching and interest matching. The resulting job list can be thoroughly investigated in subsequent evaluation efforts using other vocational evaluation approaches of higher perceived relationship to real work.

Within the last few years, controversy regarding the appropriateness and fairness of the *GATB* as a psychometric tool has resulted in confusion among individuals using the measure for vocational evaluation purposes. Since the *GATB* is a frequently used vocational aptitude test in vocational evaluation (Botterbusch & Michael, 1985), the controversy has had a direct impact on it's use in vocational evaluation. Consumers of vocational evaluation services, such as rehabilitation counselors and people with disabilities, who are superficially familiar with the *GATB* controversy may question the continued use of the *GATB* in vocational evaluation. Therefore, if evaluation professionals choose to use the *GATB*, they must be thoroughly familiar with the key issues involved in the controversy and how this recent controversy is unrelated to it's use in vocational rehabilitation. To do this, evaluators should be familiar with the background of the *GATB* and the two uses of the *GATB*: (1) as a direct job referral mechanism, and (2) as a counseling tool.

Background and Context of the GATB Controversy

Over the years, the United States Employment Services (USES) recognized a need for a "predictor" of job proficiency and success for use with unemployed individuals. From the "single score tests", developed in the early 1900's to measure general cognitive ability, came a movement toward more specialized ability tests that could compare results directly to abilities required to do certain jobs. After an extensive developmental research effort, the United States Employment Services (USES) developed a multiple aptitude measurement known at the *General Aptitude Test Battery (GATB)*. In 1947, state employment services began using the *GATB* as a predictor of job performance. Scores obtained on the *GATB* were interpreted using the *VG-GATB Referral System* that subsequently determined which applicants were referred for certain types of employment opportunities. Many rehabilitation facilities and vocational evaluation centers entered into a contractual agreement with state employment services to use the *GATB* in their facility. Although the state employment offices use the *GATB* for placement purposes, outside agencies were only allowed, by condition of contract, to use the test for vocational counseling (evaluation) purposes. Thus, these two uses of the *GATB* is one of the key pieces of information to understanding how the *GATB* controversy is unrelated to it's use in vocational evaluation.

The GATB as a direct job referral tool. The U.S. Employment Service annually screens approximately 19 million people in search of private and public sector jobs (Hartigan & Wigdor, 1989). In an effort to streamline their placement efforts, the Employment Services offices began using the *GATB* under the rationale that by using general ability tests for employment screening, employers (and employment services staff) could identify good (more productive) workers. The highest scoring applicants could be presumed to increase productivity of a firm, enhance the firm's work force, and strengthen the U.S. work force. Original validation studies of the *GATB* done on 500 jobs were later generalized to all of the nearly 12,000+ jobs in the *DOT*. Thus, individuals were referred to employment opportunities by a "top-down selection" method in that those scoring the highest on the *GATB* were referred to jobs matching their aptitude levels. Many state Employment Services offices began using this test-based referral system known as the *VG* (validity generalization) - *GATB Referral System*.

During the *VG-GATB* referral process, scores on the *GATB* were converted to percentile ranks and then rank ordered according to their performance. This allowed implementation of the "top down" referral process. However, as with virtually all standardized tests, there were significant *group* differences in the average *GATB* test scores (Hartigan & Wigdor, 1989). Minority groups, such as African Americans and Hispanics, tended to average lower scores than the majority group. As a consequence of average group differences, the "top down" referral system adversely affected the employment chances of minority groups by screening out large portions of minority candidates for employment. Employers selecting employees through this system were potentially vulnerable to charges of discrimination under Title VII of the Civil Rights Act of 1964.

To counteract this effect, the government began experimenting with a score adjustment procedure whereby an individual's scores were converted to percentile ranks according to his or her own racial or ethnic group. This procedure became known as "within-group scoring" and was meant to erase the effects of average group differences. For example, an Hispanic individual with a percentile rank of 50 would have the same referral status as a white individual with a percentile rank of 50 although their raw test scores would be different. This method was then combined with the "top-down" system for the referral process.

However, in 1986, the Justice Department challenged the within-group scoring method and urged all states using this method to cease immediately (Wigdor & Hartigan, 1989). The Justice Department charged that this system, in essence, constituted intentional racial discrimination. They indicated that it violated a person's "right to be free from racial discrimination because the within-group scoring procedure not only classifies Employment Service registrants by race or national origin, but also requires job service offices to prefer some and disadvantaged others based on their membership in racial or ethnic group" (Hartigan & Wigdor, 1989, p. 21). As a result, the Department of Labor commissioned a study by the National Research Council to establish the appropriateness of the *GATB* in the placement process. Additionally, on November 19, 1991, President George Bush signed the Civil Rights Act of 1991 that, among other things, abolished the use of separate test norms based on racial or ethnic background.

The GATB as a counseling tool. Through attempts to identify functional competencies as well as limitations of people with disabilities, vocational evaluation has strived to develop and use methods that answer questions regarding what kind of work or what type of productive activity a person will be able to do. Many rehabilitation facilities, vocational evaluation centers, and educational facilities entered into a contractual agreement with state employment services to use the *GATB* as a vocational counseling tool in their facility, by their own staff. For evaluation (counseling) purposes, data for within-group score conversion was not made available to those using the *GATB* in this manner. However, the *GATB* gave vocational evaluators a tool with an enormous research base for evaluating those who had not yet chosen a particular occupation or to evaluate the appropriateness of an occupational choice. The nine *GATB* aptitude scores and resulting Occupational Aptitude Patterns allowed direct comparison and exploration of all the occupations listed in the *Dictionary of Occupational Titles*. Thus, the *GATB* became a highly researched and validated evaluation tool that assisted vocational evaluators in identifying specific vocational strengths and limitations of their clients regarding "real life" occupations. It has become the "best validated multiple aptitude test battery in existence for vocational counseling purposes" (Madigan, Scott, Deadrick, & Stoddard, 1986, p. 103).

Although the *GATB* is subject to the limitations of any psychometric testing measure, the controversy related to it's use in direct job referral has not presented substantial evidence to abandon it's use in vocational evaluation. In the evaluation (counseling) context, the *GATB* is not used for job placement or as the sole indicator of an individual's potential performance. However, controversies regarding limitations of the *GATB* in unrelated uses raised questions about it's use in vocational evaluation, thus causing many rehabilitation professionals to discontinue administration of the *GATB*. However, *GATB* aptitude information is still relied upon heavily in vocational evaluation (i.e., job matching, transferable skills); therefore, it seems wise to review the adequacy of the psychometric quality of the *GATB* and the findings of the National Research Council's study.

Psychometric Qualities of the GATB

The *GATB* has been in existence for more than 40 years and, consequently, the test has generated a voluminous amount of research. This section will summarize some of the *GATB*'s psychometric qualities as determined by the National Research Council's study.

Validity. According to the Committee of the National Research Council (Hartigan & Wigdor, 1989), evidence of strong positive relationships between measures of the same construct is supportive of construct validity claims for all related measurement instruments. Therefore, one focus of the Committee was to evaluate the convergent validity of the *GATB*. In their review of more than 64 such studies, the *GATB* was correlated with subtests of various aptitude test batteries such as the *Differential Aptitude Test Battery (DAT)* and the *Armed Services Vocational Aptitude Battery (ASVAB)*. The distribution of the convergent validity coefficients for the *GATB*'s cognitive aptitudes (G, V, and N) were moderately high, with median coefficients of .75, .72, and .68 respectively. The results, based on more than 50 studies of each aptitude, provided moderately strong support for claims that these aptitudes were appropriately named and measured (Hartigan & Wigdor, 1989). The results for the perceptual aptitudes (S, P, and Q)were found to be less strong, with median coefficients of .62, .47, and .50, respectively. The committee did not attempt to evaluate the convergent validity of the psychomotor aptitudes (K, F, for M) due to an insufficient number of studies.

The committee also examined the criterion-related validity of the *GATB* across 755 studies classified according to five job families (Set-up/precision, Feeding/offbearing, Synthesizing, Analyze/compile/compute, and Copy/compare). The committee found the *GATB* to have modest validities for predicting supervisor ratings of job performance or training success. The average validity for predicting supervisor ratings over the five job families for the older USES studies tended to be .5 or higher; however, recent studies indicate this to be about 0.22. The unexplained decrease in validity in recent studies would suggest caution in projecting these validities into the future. Adjustment for criterion unreliability raised the average observed validity from .22 to .25 for recent studies. The average corrected validity across all 755 studies was approximately .30, with 90% of the jobs studied in the range of .20 to .40. However, the *GATB* results compare well with similar test batteries such as the *Armed Services Vocational Aptitude Battery (ASVAB)*. The *ASVAB*, a contemporary and extensively studied vocational aptitude test battery, reported a mean uncorrected validity for predicting training success of about .33. For the *GATB*, the corresponding index for predicting training criteria is about .35. The modest correlations, however, suggested the *GATB* scores can provide useful screening information only, but should not to be used as the sole indicator for matching people to jobs.

Reliability. Reliability refers to the dependability, consistency, and precision of a test (Power, 1984), i.e., freedom of test scores from errors of measurement. The *GATB*, as an aptitude test, is intended to measure stable characteristics and not transient qualities of individuals. It must, therefore, be able to measure these characteristics consistently to be useful. Stability coefficients (coefficients based on two administrations of the same form) are regarded as one of the most appropriate reliability estimation procedures for reflecting stability of measurements across time (i.e., weeks, months, or years). Jaeger, Linn, and Tesh (1989), in their review of the reliability of the *GATB* aptitude scores, concluded that the stability coefficients of the *GATB* are acceptable. They grouped their review of the stability coefficients of the *GATB* by age and time intervals. They found the *GATB* scores of adults to be more stable than those of ninth and tenth graders. Additionally, the range of stability coefficients for *GATB* scores across test-retest intervals from one day to four years ranged from .51 to .94. The averages of the stability coefficients across studies for the *GATB* scores were: G (.91), V (.89), N (.89), S (.83), P (.81), Q (.81), K (.84), F (.70), and M (.76). As one can observe, the cognitive aptitudes (G, V, and N) are more stable than the perceptual aptitudes (S, P, and Q), while perceptual aptitudes are more stable than psychomotor aptitudes (K, F, and M). The non paper-and-pencil subtests (F, M) have the lowest reliability.

Stability coefficients may be inflated by remembering or merely duplicating initial responses to test items. Therefore, equivalent forms reliability is sometimes used to avoid this problem. The *GATB* has four operational forms: A, B, C, and D. Forms A and B have been used since 1947. Forms C and D were normed in 1983 and are the primary forms in use today. The Committee found that the coefficients of equivalence between Forms A and B are quite similar to Forms C and D. The magnitude of the coefficients is very similar to the findings for the stability coefficients. Cognitive aptitudes appear to be most reliable and coefficients for psychomotor aptitudes tend to be the smallest. No estimates of the internal consistency of the *GATB* were reported in the test manual or in the psychometric literature. As the *GATB* has severe time limits for every subtest, such estimates will likely be artificially high. In comparison with the *ASVAB* reliabilities, the *GATB* reliabilities are about par with the *ASVAB* data.

Norms. The original normative sample of the *GATB* is based on 4,000 workers between 18 to 54 years old (representative of the work force in the 1940 census). Five occupational groups: professional and semi-professional, clerical, sales, craftsmen, operatives, laborers (except farm and mine) were represented in the standardization sample. The sample was also stratified on the basis of sex, age, and geographic location. A comparison study conducted in 1966 suggested that the norms had remained stable; however, no new studies were reported after 1966. This is a critical issue in light of the fact that the job economy has been moving from a manufacture-based to information-based economy.

Implications and Conclusion

Findings of the Committee directly addressed and cautioned use of the *GATB* as a placement tool but presented no evidence against it's use as a vocational counseling tool. The committee pointed out that a number of rehabilitation specialists throughout the country with many years experience using the *GATB* indicated it to be a useful assessment tool. The Committee did, however, point out the limitations and dangers of using any test as the single determining factor for any type of recommendation.

Since the *GATB* was developed over 45 years ago, it faces the possibility of being out of date despite two additional forms of the test introduced in 1983. However, any alterations of the *GATB* could consequently destroy its ties to its enormous research base; thus, a reluctance to change the test in any way. Although the *GATB* is subject to the limitations of psychometric testing in general, the recent study did not find it to be inferior to other vocational aptitude tests in terms of psychometric properties. The psychomotor aptitude subtests were found to be somewhat weak, indicating that a stronger focus on validating the psychomotor subtests in future research is warranted. Since the *GATB* is a highly speeded test, it is susceptible to practice effects and coaching. Additionally, the limited number of forms severely compromises test security. It was recommended that additional parallel forms be developed and separate but parallel forms be made available for counseling and guidance purposes.

Furthermore, while discussing and concluding its findings on the use of the *GATB* for counseling purposes, the committee did not find it inappropriate as a counseling tool for people with disabilities. For example, the committee stated: "For people with disabilities, the *GATB* is appropriate . . . as a supplement to counseling rather than as the main referral instrument" (Hartigan & Wigdor, 1989, p. 10). Furthermore, regarding use of the test with people with disabilities, "the [*GATB*] should be used to supplement decision making, not to take the place of counseling services" (p. 14). Thus, it appears the *GATB* remains a viable multiple aptitude test battery for use in vocational evaluation of people with disabilities.

The recent controversy over the *GATB* serves as an example of the need for informed decision making when choosing tests for vocational evaluation purposes. A full understanding of a test, it's psychometric qualities, and issues related to the particular test are crucial for appropriate test usage. Uninformed decision making could lead to rejection of a potentially useful measure or to the use of a poorly designed assessment tool. A clear understanding of the controversy over the *GATB* is necessary if evaluation professionals continue to use this particular multiple aptitude battery. Understanding the two uses of the *GATB* (direct job referral and counseling) is a key issue in justifying it's continued use in vocational evaluation. Additionally, knowing that the recent controversy stems from it's use as a direct referral mechanism, not as a counseling tool, allows vocational evaluators to continue using the *GATB* comfortably.

References

Berven, N.L. (1979). Psychometric assessment in rehabilitation. In B. Bolton (Ed.), *Rehabilitation client assessment.* Baltimore: University Park Press.

Botterbusch, K.F., & Michael, N. (1985). *Testing and test modification in vocational evaluation.* Menomonie: Materials Development Center, University of Wisconsin-Stout.

Delahunty, R.J. (1988). Perspectives on within-group scoring. *Journal of Vocational Behavior, 33*, 463-477.

Hartigan, J.A., & Wigdor, A.K. (Eds.). (1989). *Fairness in employment testing: Validity generalization, minority issues, and the General Aptitude Test Battery.* Washington: National Academy Press.

Jaeger, L., Linn, R.L., & Tesh, A.S. (1989). A synthesis of research on some psychometric properties of the GATB. In J.A. Hartigan and A.K Wigdor (Eds.), *Fairness in Employment Testing: Validity generalization, minority issues, and the General Aptitude Test Battery.* Washington: National Academy Press.

Madigan, R.M., Scott, K.D., Deadrick, D.L., & Stoddard, J.A. (1986). Employment testing: The U.S. Job Service is spearheading a revolution. *Personnel Administrator, 31*, 102-112.

Power, P.W. (1984). *A guide to vocational assessment.* Austin: Pro-Ed.

Vocational Evaluation and Work Adjustment Bulletin. (1975). *VEWAA project final report.* Menomonie: Materials Development Center, University of Wisconsin-Stout.

Donald A. Kates, MS, CRC, CVE and
Fong Chan, Ph.D.
University of WI-Madison
DRPSE
432 Murry Street
Madison, WI 53706

REHABILITATION PROVIDER MALPRACTICE

MARILYN T. OAKES, CRC
REHABILITATION CONSULTANTS, INC.

ABSTRACT: *Although it is not always the case, private rehabilitation providers should operate according to the same standards of practice and professional behavior as do other branches of rehabilitation. To preserve the integrity of the profession, litigation against offenders may be necessary and even desirable. A small body of prior rehabilitation malpractice litigation exists and these cases are reviewed. Legitimate practitioners are urged to get involved. Making CRCC, CCWAVES, CIRS, and CRRN standards state and/or federal law would greatly reduce abuses in private rehabilitation. Public interest demands that we not rest until abuses in professional rehabilitation practice meet swift and sure retribution.*

Introduction and statement of the issue

Private rehabilitation insurance practice is reaching critical mass. Many insurance companies invested badly in the '80s and the debts are coming home to roost.(Steinmetz, August 28, 1992) Aetna has $1.1 billion in mortgage loans that matured during the first six months of 1992, $829 million of which were not paid on time.(Steinmetz, August 18, 1992) Travelers Corporation had $2 billion in foreclosed real estate on its books at the end of 1992, and took a $589 million fourth quarter loss to rid itself of some of its least profitable holdings. Overall at the end of 1992, Travelers had $13.6 billion in real estate, of which $5.1 billion was not performing to expectations.(Steinmetz, 1993)

Rather than dealing with root financial issues, many insurance carriers have chosen to cut benefits and services (Egan, 1992), including rehabilitation. The effect is felt both directly and indirectly by vocational evaluators. According to anecdotal accounts, a great deal of the business is going to rehabilitation providers who railroad rehabilitation clients at the direction of the adjusters. The pressure to cut corners and say what one is paid to say has become so intense that some private rehabilitation providers have terminated longstanding insurance accounts due to being afraid of the shenanigans of their accounts. Unfortunately, many rehabilitation providers have chosen to become no more than unofficial claims adjusters. It is despicable, it isn't rehabilitation, and it may well be malpractice. The abuses are most notable in the for-profit sector, but the non-profit sector is no longer immune. Due to federal funding cutbacks and Clintonian warnings of impending sacrifices, it is only a matter of time before non-profit administrators are faced with the same ethical dilemmas as are faced in the for-profit sector - comply or else.

Thus far, there haven't been many penalties for those who have chosen to abandon ethics and principles of professional practice. They don't lose their licenses. It doesn't cost them money. Shame has long since left their psyches, so it doesn't even rob them of sleep. Indeed, many times the providers being ostracized and losing money are the legitimate practitioners who dare to speak up.

The good news is that there is evidence to suggest that penalties and reform may be on the distant horizon. There are a few interesting court cases around the country of which serious practitioners of private rehabilitation need to be aware. There are undoubtedly other cases than these that were settled or handled administratively and therefore did not generate case law. Out-of-state court decisions may not apply to you directly, but may point in the direction where your state is headed.

As strange as this sounds, the increasing trickle of rehabilitation tort and malpractice lawsuits is good for the profession. Our future as a profession depends upon our policing ourselves and maintaining high standards. Thus far, we have largely failed to do so, and the plaintiffs' bar is beginning to identify us as deep pocket defendants. Financial pain can precipitate change faster than almost anything.

Case law

On August 7, 1992, the Alabama Supreme Court released a decision upholding a jury verdict against Intracorp and one of their rehabilitation counselors, Tammy L. Bradly, *in the amount of $155,000. The defendants were found to have committed fraud by omission and to have been negligent in their performance of duties. Testimony indicated that Mrs. Bradly had failed to inform the plaintiff, Aubrey Adams, that he would not receive the plethora of services listed in their brochure, and all he was getting was vocational evaluation and medical management. Mr. Adams was delayed in returning to the workforce, and thereby damaged, because he believed that it was the defendants' intent to rehabilitate him.(Alabama Supreme Court, 1992) Quoting from Adams:*

> *This Court has stated that a cause of action of suppression of a material fact under 6-5-102, Ala. Code 1975, has four elements: '(1) a duty to disclose facts; (2) concealment or nondisclosure of material facts by the defendant; (3) inducement of the plaintiff to act [or refrain from acting]; and (4) action [or a refraining to act in a way that the plaintiff would otherwise act] by the plaintiff to his injury.' Wilson v. Brown, 496 So. 2d 756, 759 (Ala. 1986).*
>
> *We conclude that Adams presented substantial evidence* of each of these elements. First, as to the duty to disclose, 6-5-102, Ala. Code 1975, states, in pertinent part, 'The obligation to communicate may arise from the confidential relations of the parties or from the particular circumstances of the case.' (Emphasis added [by the court].) Adams does not argue that a confidential relationship existed, but rather that the particular circumstances of the case imposed an obligation to disclose.*
>
> *This court has stated that 'A duty to speak depends upon the relation of the parties, the value of the particular fact, the relative knowledge of the parties, and other circumstances.' Deupree v. Ruffino, 505 So. 2nd 1218, 1222 (Ala. 1987), quoting American Bonding Co. v. Fourth National Bank of Montgomery, 206 Ala. 639, 641, 91 So. 480 (1921). Further, this Court has held that a case-by-case, flexible approach must be used in determining if a duty to disclose exists under the particular circumstances of the case. Jim Short Ford Sales, Inc. v. Washington, 384 So. 2d 83 (Ala. 1980).*
>
> *In this case, Adams presented evidence that Intracorp policy required a rehabilitation specialist to fully disclose to a client (injured party) the extent of Intracorp's relationship with that person. Specifically, Adams points to three portions of Intracorp's Rehabilitation Specialist Resource Guide (hereinafter 'Resource Guide'), Intracorp's written policy statement and manual for its rehabilitation specialists. One portion of the Resource Guide states, '[W]e are obligated to state clearly what our role will be in the assessment and rehabilitation process.... This is essentially important when there is not intent to provide rehabilitation services beyond a file review, client interview, or assessment.' Resource Guide at 9.2 Another portion of the Resource Guide states, 'The client should always be aware of the limits of our relationship. We are obligated to provide full and complete disclosure of our involvement.' Resource Guide at 9.2*
>
> *Further, the Resource Guide states:*
>
> *'Rehabilitation counselors who provide services at the request of a third party will clarify the nature of their relationships to all involved parties. Rehabilitation counselors employed by third parties as case consultants or expert witnesses, where there is no pretense or intent to provide rehabilitation counseling services directly to clients beyond file review, initial interview and/or assessment, will clearly define, through written or oral means, the limits of their relationship.' Resource Guide at 9.13*
>
> *Thus, it was Intracorp's stated policy to fully inform clients of its relationship with them and of any limitations in the services that Intracorp could render to them. Intracorp, then, by its own business policy, had an obligation to disclose to Adams the limited nature of its undertaking for CIGNA. That is, because of the particular circumstances of this case, especially the stated company policy, we conclude the Intracorp and Bradly had a duty to disclose to Adams that CIGNA had hired them to perform only an initial evaluation. Stated differently, we conclude that Intracorp and Bradly had a duty to disclose to Adams that they had not been hired by CIGNA to perform the full range of services discussed in the services brochure provided to Adams in response to his query about the kinds of services Intracorp planned to provide him.*
>
> *Second, we find that Adams presented substantial evident as to the nondisclosure or concealment element also. In answer to Alexander's written and specific inquiry about the types of services Intracorp would provide for Adams, Bradly referenced Intracorp's brochure (reprinted above) which outlined a plethora of rehabilitation services. If Adams was not to receive these services, it was incumbent on Intracorp and Bradly to specifically inform Adams to this effect. Furthermore, at the evaluation session, Adams specifically asked Bradly whose interest she served, and although she responded by saying that she served the insurance company's interest, she also stated that after this initial meeting she would serve his interest. When Adams asked her this question, Bradly had an opportunity to fully disclose to Adams the limited nature of Intracorp's undertaking. The evidence is clear that she did not do so.*
>
> *Third, as to inducement of the plaintiff to act or refrain from acting, it is undisputed that Adams did not seek other rehabilitation services, even governmentally provided services. We conclude that Adams's inaction was reasonable under the circumstances and particular facts of this case.*
>
> *Fourth, and finally, as to injury, there was evidence that Adams was delayed in returning*

> to the workforce because he was not rehabilitated sooner. In short, Adams was not informed of Intracorp's limited undertaking, he specifically requested to know what type of services Intracorp proposed to provide, he was referred to Intracorp's brochure, and Intracorp and Bradly failed to inform him that those services would not be provided. We conclude that Adams was justified in relying on Bradly's answer to his inquiry, and that he was injured by failing to act as he would have acted absent Intracorp and Bradly's failure to disclose.
>
> Based on the foregoing, we affirm the judgment entered on the jury's verdict.
> AFFIRMED.
>
> Hornsby, C.J., and Shores, Houston, and Kennedy, JJ., concur.
>
> *'Substantial evidence' has been defined as 'evidence of such weight and quality that fair-minded persons in the exercise of impartial judgment can reasonably infer the existence of the fact sought to be proved.' West v. Founders Life Assurance Co. of Florida, 547 So. 2d 870, 871 (Ala. 1989); see Ala. Code 1975, 12-21-12. (Alabama Supreme Court, 1992)

As rehabilitation abuses go, it wasn't much to get excited about. What is exciting is that the court set down in case law a standard for private rehabilitation practice, and it cost somebody money. The standards of Adams fall far below our national standards under either the Commission on Rehabilitation Counselor Certification (CRCC)(NRCA, 1987) or the Commission on Certification of Work Adjustment and Vocational Evaluation (CCWAVES), as well as the state standards set by the Alabama Board of Examiners in Counseling (ABEC). However, it is a start.

Interestingly enough, the practice and ethics standards of CRCC or CCWAVES and ABEC weren't raised as issues in Adams. Despite exposure to a large number of private rehabilitation providers in his legal career, Mr. Adams' attorney indicated to the author by telephone that he wasn't aware that we have ethics and standards.(Alexander, 1992) When people can't even tell by looking at our work that we have ethics and standards, it is a sad commentary on the state of our profession.

More exciting than Adams is a case out of the Georgia Court of Civil Appeals, Drury et. al. v. Vocational Placement Services (Fortis). The Georgia Supreme Court denied certiorari, effectively upholding the Appeals Court's finding that rehabilitation malpractice exists separate and apart from the exclusive remedy provision of the Georgia Workers Compensation Act. Mr. Drury was awarded his day in court to determine whether rehabilitation malpractice had been committed. (Georgia Court of Appeals, 1992) The Drury opinion cites a number of cases in which the exclusive remedy of the Georgia Workers' Compensation Act and the parties were judged immune from tort actions. The decision goes on to say:

> However, entirely unlike the above cited cases, the appellant does **not** seek a recovery based upon allegations that his original compensable on-the-job accident was caused by appellee's breach of any duty performed in its capacity as an alter ego of the employer. Appellant **does** allege that, subsequent to his original compensable on-the-job accident, appellee negligently breached a separate duty of care that it owed to appellant in its capacity as the provider of vocational rehabilitation services. Thus, appellant has alleged appellee's commission of a **succeeding and distinct** act of professional negligence. OCGA 34-9-11 does not render one who is negligent in the **subsequent provision of services** to a previously injured workers' compensation claimant immune from liability therefor. Appellee's "liability arises from the [professional-client] relationship with [appellant], and not from an employer-employee relationship. The [professional] attending the injured employee is not a party to the compensation case or settlement. Nothing in the [Workers'] Compensation Act places an attending [professional] in a class with the employer." Gay v. Greene, 91 Ga.App. 78, 81(2), 94 S.E.2d 847 (1954). "The Workers' Compensation laws were not intended to be a grant of immunity from professional malpractice actions." Davis v. Stover, 258 Ga. 156, 157, 366 S.E.2d 670 (1988), aff,g 184 Ga.App. 560, 362 S.E. 2d 97 (1987) (discussing immunity of a fellow servant rather than an employer and holding that immunity does not extend to a company doctor as a professional fellow servant). It follows, therefore, that the trial court erred in granting summary judgment in favor of the appellee.(Georgia Court of Appeals, 1992) (items in bold print are those of the court)

Mr. Drury's attorney, Jeffrey Berry, indicated to the author by telephone that they petitioned for dismissal in state court so that they could refile in federal court since Fortis is a multi-state defendant. Suit is pending in the U.S. District Court for the Southern District of Georgia. (Berry, 1992)

Drury has the potential to define rehabilitation malpractice at the federal level. Any case law made and upheld in Drury would be applicable throughout the 11th U.S. Circuit, which includes the states of Alabama, Florida, Georgia, and Mississippi. If the case is appealed all the way to the U.S. Supreme Court, it would become the law of the land. It could create a wave of federal litigation in rehabilitation provider malpractice. Drury could have enormous significance in reforming insurance-sponsored rehabilitation and may become, quite literally, the mother of all rehabilitation battles.

The predecessor to both Adams and Drury was an Oregon case, Nicholson v. IntraCorp et. al., released by the Oregon Supreme Court in 1988. Randy L. Nicholson was injured on the job in August, 1981. His employer retained International Rehabilitation Associates, Inc. (IRA, now IntraCorp) to provide vocational rehabilitation for him in November, 1983. In his complaint, he alleged that the contract with IRA would provide rehabilitation or assistance "which would have reasonably qualified him to obtain employment at or near the wage he was earning at the time of his industrial injury (8-6-81), which was $86.24 a day or $11.00 per hour." Mr. Nicholson further alleged that in March, 1984 a written agreement was signed that he would be paid $11.20 per hour to work as a chemical dependency counselor. He later verbally amended the contract and agreed to accept the chemical dependency counselor job at the rate of $11.00 per hour. The chemical dependency job, however, paid only $7.00 per hour, and Mr. Nicholson claimed breach of contract as well as negligence for failing to provide adequate training or assistance, in misrepresenting the hourly wage of the chemical dependency job, and in failing to advise him of the consequences of accepting the chemical dependency job.

Initially, the case was dismissed against all parties by the trial judge, due to the exclusive jurisdiction of the Oregon Workers' Compensation Board. The Oregon Court of Appeals affirmed the decision. The Oregon Supreme Court, however, overturned the ruling and remanded the case to the lower court for trial on May 3, 1988. Quoting from the Oregon Supreme Court decision:

> The exclusive remedy of injured employees against their employers for injuries suffered in the course and scope of employment is to receive workers compensation benefits. ORS 656.018(1)(a) and (2). The exemption from liability given an employer extends to the employer's insurer, the department and the employees, officers and directors of the employer, insurer and the department. ORS 656.018(3). The statute does not mention any other person or entity nor does it contain language that suggests that anyone else might be protected by the exclusion of other remedies. ORS 656.154 provides that third parties may be liable outside the workers' compensation system, and this court has held that tort remedies are available to workers' compensation claimants who are negligently injured by physicians who treat their compensable injuries. Wimer v. Miller, 235 Or. 25, 383 p.2d 1005 (1963). We therefore conclude that ORS 656.018 does not make workers' compensation the only remedy available to an employee for claims against a vocational rehabilitation organization that contracts with an employer or insurer to provide assistance under the Workers' Compensation Act. Similarly, the employees of such an organization are not protected from other liability by ORS 656.018.(Oregon Supreme Court, 1988)

Another case to consider is Adams Fruit Company v. Ramsford Barrett et. al., a case decided by the U.S. Supreme Court in 1990. In this case, the Court ruled that the exclusive remedy provision of the Florida Workers' Compensation Act did not prevent the farmworkers from bringing suit under the relevant federal statute, the Migrant and Farmworkers Act.(U.S. Supreme Court, 1990) This flings the door open for state workers' compensation actions to be litigated in federal court. At least in theory, this would include rehabilitation malpractice.

Much of American law is built a layer at a time, and rehabilitation malpractice will be no different. Adams Fruit Company also adorns the stage if state workers compensation suits are filed in federal court under the Americans with Disabilities Act. Since employers are not permitted to discriminate by subcontract (ADA, 1990) (rehabilitation providers would be subcontractors), errant providers could also be sued for discrimination under ADA for failing to write appropriate rehabilitation plans. Though this legal theory from a non-lawyer is admittedly at the edge of tort and discrimination law as we currently understand it, in the American legal system, anything is possible. This line of reasoning would not be difficult to argue, particularly when one takes into account our historical advocacy role in the rights of disabled citizens. Prudent rehabilitation providers will take heed and amend their practice habits accordingly.

Along with the previously cited cases and ADA, there is tort law. With a clear understanding of our duties and responsibilities under codes of ethics and standards of professional practice, the possibilities for tort actions are endless. The definition of tort is: actions and behaviors that aren't necessary criminal as are murder or robbery, but are nevertheless not to be tolerated in a civilized society. The simple definition of tort is - duty, breach of duty, and damages. Samples of torts include fraud, breach of contract, negligent performance or nonperformance of duties, outrageous conduct, willful or wanton misconduct, reckless disregard, mis- or malfeasance, malpractice and negligent utilization review.

Utilization review is the newest field of insurance "savings" (translation: benefits reduction), and, depending upon your state law, you may get called upon to provide this service. As a general rule, vocational evaluators are not asked to engage in review of medical utilization. However, a brief explanation may be helpful in directing evaluation clients who are having problems with utilization reviewers to appropriate advocates. Utilization review presents more opportunities for abuse than anything we could have done on our own in the past. There are a few negligent utilization review cases around the country, and one of the most notable is Hughes v. Blue Cross of Northern California.

Though not a workers' compensation case, the concepts articulated in Hughes could well be the basis of action in workers' compensation negligent utilization review. The California Supreme Court found that imposition of a lower standard of care than that dictated by the community created legal liability. The judgment against Blue Cross was $850,000, (Burton, 1992; California Court of Appeals, 1989) which is a sobering amount of money. The parents of suicide victim Patrick Hughes initiated legal action against Blue Cross/Blue Shield of Northern California for negligent utilization review. Patrick had been hospitalized for several weeks after a suicide attempt and had a long history of severe mental instability. Utilization reviewers hired by Blue Cross/Blue Shield of Northern California, without benefit of complete records, decided that Patrick was well enough to be discharged and treated on an outpatient basis. They guessed wrong and Patrick killed himself. Patrick's parents sued and won at the jury trial, and the judgment was subsequently upheld at the appeals level.

The California Court of Appeals held that employers and insurers "can be held legally accountable when medically-inappropriate decisions result from defects in the design or implementation of cost containment mechanisms." The jury awarded the Hughes family $700,000 in punitive damages and $150,000 in compensatory damages, which was upheld on appeal. The California Appeals Court found that Blue Cross used "a standard of medical necessity substantially at variance with community standards." (California Court of Appeals, 1989) Proving variance with community medical standards is complicated and hasn't been done much except in death cases. Nevertheless, a few rehabilitation malpractice judgments the size of Hughes and it is unlikely that we'd have a problem with substandard practice.

Unfortunately for medical consumers, an unintended effect of the federal Employee Retirement Income Security Act (ERISA) law may interfere with negligent utilization review litigation. In apparently a most reluctant decision, the Fifth U.S. Circuit Court of Appeals found for the defendants in a wrongful death claim again utilization reviewers. Their decision effectively leaves treating physicians holding the bag if the utilization reviewer guesses wrong. (Felsenthal, 1992) ERISA usually does not apply in state workers' compensation, but may do so on occasion, depending upon the wording of the individual state's workers' compensation statute. The framework is extremely complex and the reader is referred to a competent ERISA lawyer if more information is desired.

Many of us secretly enjoy hearing about cases like Adams, Nicholson, and Drury but are afraid of the consequences for taking a strong stand. The reader is urged to get involved. It is only a matter of time before you have nothing to lose by becoming a reformer. As attributed to Lord Edmund Burke, "All that it takes for evil to triumph is for good men to do nothing." (We know he meant "good people.")

It is a great embarrassment when people can't tell by looking that we have standards of professional practice and codes of ethics. The reactions from plaintiffs' attorneys range from mild amusement to outright astonishment when informed of same. Rehabilitation providers and vocational evaluators are in serious danger of becoming as stereotypical as used car salesmen, and we have done it to ourselves by failing to make wrong-doers suffer the consequences of their actions.

A call to action

If you are tired of taking the abuse for other providers' aberrant professional behavior, here are some things you can do to help.

1. Collect all the relevant professional standards and codes of ethics that apply in your state and inventory your own practice. Having one's own house in order is necessary to be a reformer.

2. Be able to explain to attorneys what are common breaches of standards, using CRC, CCWAVES, CIRS, and/or CRRN. Since most attorneys don't know that we have practice standards and codes of ethics, they certainly wouldn't recognize when a standard has been breached. If one is certified, registered, or licensed, one is bound by the standards of that designation, regardless of what one's job title or employer's standards may be.

   Besides CRCC, CCWAVES, CIRS, and CRRN, potential sources for standards include the state counseling licensure board, state nursing registry, and state nursing association. The American Nursing Association and the American Counseling Association both have standards for their practitioners, some of which are relevant in private rehabilitation practice.

3. If there have been out of court settlements or administrative procedures in your state, tap into the grapevine and find out what they are. Contact the attorneys who handled the case, on both sides. They love to talk about their work, and you can educate them about what to expect from our profession.

4. Contact every trial lawyer you know and tell them that you are available to help with rehabilitation tort cases. You may have to explain why rehabilitation malpractice is a tort, and you may well have to explain why the exclusive remedy provision of the state workers compensation law isn't appropriate. Nearly every trial lawyer will have a few cases in their office where the rehabilitation provider has stepped out of line. They will readily identify with your comments, once you define malpractice in terms of torts: duty, breach of duty, and damages.

5. Be prepared to testify in court, or to locate a rehabilitation expert from out of the area who will do so. Ethics and standards of practice usually are national standards or based on national standards. Particularly with the advent of federal litigation, testimony could well be obtained from an outsider if you don't want to risk your reputation with the locals. Many concerned rehabilitation providers are willing to evaluate cases for malpractice and to testify if needed, including this writer.

   Even if you don't want to testify in open court, there is much you can do behind the scenes to help the lawyers demand specific, appropriate rehabilitation programs for their injured clients. Little makes poor providers squirm more than being confronted with a well-thought-out, well-constructed rehabilitation plan that will get the injured worker back to productivity for a reasonable price.

6. Speak up! Public speaking to bar associations and legislative committees, as well as articles in state lawyer journals are good ways to spread information fast. Believe it or not, most attorneys receive our help gratefully when they understand the true nature of our profession. Most are quite positive that something should be done, but have no idea how to accomplish it. We are in a position to tell them exactly what can be done to shore up ethics and professional practice.

7. Talk with the labor leaders in your state legislature about making the standards of practice and ethics of CRCC and CCWAVES part of the state workers' compensation law. If national standards are adopted as part of the state law, most of the abuses will stop quickly. The cost of bad rehabilitation will simply be too high.

   If you can get the ear of your U.S. Congressman or Senators, so much the better. If CRCC, CCWAVES, CIRS, and CRRN standards were to become federal law with penalties akin to the Americans with Disabilities Act, rehabilitation abuses could be litigated in federal court.

8. If you have a rehabilitation regulatory commission, make yourself available to the commissioners for independent opinions. If your rehabilitation disputes are litigated in civil court, let the judges know that you're available as a court-appointed expert. The judges see these people day in and day out. They know who not to believe, but it doesn't occur to most of them to appoint an objective expert.

9. Turn people in. If it doesn't work the first time, continue until it does. There is a great deal of truth in the "squeaking wheel" theory. For example, if your counseling licensure law does not permit therapists to do job descriptions and vocational evaluations, turn them in to the counseling board for practicing counseling without a license. Turn them in to their therapy board, as well. If you observe ethics violations among nurse case managers, turn them in to the nursing board. It usually takes a lot to revoke someone's license, and a record of ethics or practice complaints may help the balance of power in the future.

10. If there is any interest or awareness at the insurance carrier that they have a problem, offer to help them set up ethical standards and guidelines governing the rehabilitation providers whom they hire. They have grown so accustomed to shoddy work from our profession that they genuinely may not realize how much money good rehabilitation can save them.

None of these actions will win friends with many private rehabilitation providers. If the dedicated few of us diligently pursue these points, with any kind of luck, somewhere between three to five years from now we will see significant change in how insurance rehabilitation is practiced.

Summary

Private rehabilitation providers should operate according to the same standards of practice and professional behavior as any other branch of rehabilitation. To preserve the integrity of the profession, litigation against offenders may be necessary. Legitimate practitioners are urged to get involved. Public interest demands it and we must not rest until abuses in practice meet swift and sure retribution.

REFERENCES

Alabama Supreme Court.(1992). Adams v. International Rehabilitation Associates (Intracorp) and Tammy L. Bradly, CV-90-31 (Limestone County, Alabama), #1901798, released August 7, 1992.

Alexander, J.(1992). Personal communication, September 25, 1992.

Americans with Disabilities Act.(1990). 42 USC 12101.

Berry, R. J.(1992). Personal communication, May 5, 1992.

Burton, T. M.(1992). "Second Opinion: Firms That Promise Lower Medical Bills May Increase Them." The Wall Street Journal, July 28, 1992.

California Court of Appeals.(1989). Hughes v. Blue Cross of Northern California. 263 Cal.Rptr. 850 (Cal.App. 1 Dist. 1989), 1989.

Egan, J.(1992). "New Payoffs From a Risky Business", U.S. News and World Report, August 24, 1992, p. 68.

Felsenthal, E. and M. Geyelin.(1992). "Courts Support Health Insurers That Reject 'Unnecessary' Care," The Wall Street Journal, November 25, 1992.

Georgia Court of Appeals. (1992). Drury et. al. v. VPS Case Management Services, Inc. Fortis). CASE NO: A91A0024/200 GA.App. 540.

National Rehabilitation Counseling Association and Commission on Rehabilitation Counselor Certification. (1987) "Code of Professional Ethics for Rehabilitation Counselors", Journal of Applied Rehabilitation Counseling, 184), 25-31.

Oregon Supreme Court.(1988). Nicholson v. IntraCorp et. al.. 753 P.2d 955 (Or. 1988).

Steinmetz, G.(1992). "Aetna's Profit On Sale Is Less Than Forecast." Wall Street Journal, August 18, 1992.

Steinmetz, G.(1993). "Travelers Corp. To Report Loss For 4th Quarter." Wall Street Journal, February 5, 1993.

Steinmetz, G.(1992). "Troubled Commercial Real Estate Loans Held by Insurers Rise to a Record 7.3%" The Wall Street Journal, August 28, 1992.

United States Supreme Court.(1990). Adams Fruit Company Inc. v. Ramsford Barrett, et. al., 494 US 638, 108 L Ed 2d 585, 110 S Ct 1384.

Acknowledgements

A word of thanks is due to Private Rehab, a publication of the National Association of Service Providers in Private Rehabilitation division of The National Rehabilitation Association, for permission to re-print sections of my Fall, 1992 article entitled, "One Rehabilitation Professional's Concern About Malpractice."

Thanks is also due to David M. Tuck for editorial assistance and to Henry E. Lagman, Esq., Allen M. Howell, Esq., and Barry V. Frederick, Esq. for assistance with complex legal aspects.

MARILYN T. OAKES, CRC
LICENSED PROFESSIONAL COUNSELOR
REHABILITATION CONSULTANTS, INC.
P.O. BOX 43254
BIRMINGHAM, ALABAMA 35243
205/967-9798
FAX: 205/970-0487

A PROPOSED CURRICULUM MODEL FOR VOCATIONAL EVALUATION

KAREN L. PELL, ALABAMA EMPLOYMENT ALTERNATIVES COMMITTEE

DARRELL W. TAYLOR, SOUTHERN ILLINOIS UNIVERSITY AT CARBONDALE

Abstract

The purpose of this article is to consider the merits of establishing a vocational evaluation curriculum for both pre- and in-service applications. Data collected on existing university programs with an emphasis in Vocational Evaluation are presented and analyzed. A contemporary curriculum and course guidelines, considering the CORE and CCWAVES standards, are proposed. The impact on professional development of Vocational Evaluators is discussed.

With the recent reauthorization of the Rehabilitation Act of 1973 as amended (Amendments of 1992), there has been much discussion among members of the rehabilitation community about the "qualified rehabilitation professional." Descriptions have emphasized the rehabilitation counselor (Graves, Coffey, Habeck, and Stude, 1987). The scope of the Amendments include vocational evaluation and other professions in rehabilitation. The use of the term "professional" includes all professional positions that contribute significantly to the rehabilitation process.

The field of vocational evaluation, in its professional development, has experienced phenomenal growth and change during the past two decades. Consistently, vocational evaluators have sought to define and clarify the job tasks and functions for their role in the vocational rehabilitation process.

Predominantly, empirically-based role studies have examined the job tasks and functions of the rehabilitation counselor (Emener & Rubin, 1980; Muthard & Salomone, 1969; Rubin, Matkin, Ashley, & Beardsley, 1984; Wright, Leahy, & Shapson, 1987); however, separate studies were undertaken to identify the knowledge, skills, and abilities of the vocational evaluation practitioner (Coffey, 1978; Pruitt, 1972; Sink, Porter, Rubin, & Painter, 1979; Taylor, Bordieri, Crimando, and Janikowski in press). The evaluator's role has been defined by identifying common techniques used in the vocational assessment of individuals with disabilities (Leahy & Wright, 1988).

Similarities between rehabilitation counselors and vocational evaluators have been examined to identify selected knowledge areas common to both specializations (Beardsley & Rubin, 1988; Sink & Porter, 1978; Sink, Porter, Rubin, & Painter, 1979; Wright, Leahy & Riedesel, 1987). Sink and Porter (1978) explored unique and common functions of vocational evaluators and rehabilitation counselors and concluded that, although, there are numerous similarities in function and core competencies, the two rehabilitation disciplines are sufficiently different to warrant separate educational degree and training programs.

As VEWAA led the movement towards certification, there was debate about the implied competence of vocational evaluators. Certification was not synonymous with, or a substitute for, competence (Baker, 1980). Pruitt (1980, p.82) explained further, "Certification assumes that at least the minimum standards of a profession are met by those individuals who become certified rather than to assume the practicing competency of the individual." Minimum standards, he contended, are related to issues such as relevant work experience, education, training, and supervisory and peer references.

Thomas and Sigmon (1989) found that ten years later, there still is a lack of uniform standards and competencies within graduate Vocational Evaluation education. They attributed this to the lack of increased federal funding for research, in-service, and pre-service training opportunities in Vocational Evaluation. Consequently, the development of new educational programs and the enhancement of existing ones have been hindered.

Certification and Accreditation Standards

In 1981, CCWAVES was formed to develop and implement the certification process. According to Early (1988), the establishment of CCWAVES and identification of vocational evaluator knowledge and skill areas advanced the profession.

CCWAVES currently defines 14 Knowledge and Performance Areas as essential for the practice of Vocational Evaluation. For individuals seeking Certification in Vocational Evaluation (CVE) under Category A or B, master's degree course work must match requirements combined from the 14 areas. In addition, an internship or acceptable full-time paid employment experience as a Vocational Evaluation specialist must be documented (CCWAVES, 1992). The 14 Knowledge and Performance Areas are as follows (CCWAVES, 1992,pp. 8-11):

1. Philosophy and Process of Vocational Evaluation and Assessment
2. Job Analysis
3. Occupational Information
4. Functional Aspects of Disability
5. Vocational Interviewing
6. Individualized Vocational Evaluation Planning
7. Standardized Testing
8. Work Samples and Systems
9. Situational and Community-based Assessment
10. Behavioral Observation
11. Assessment of Learning
12. Functional Skills Assessment
13. Report Development and Communication
14. Modification and Accommodation

As with any profession, these knowledge and performance areas have evolved as the profession has developed and diversified. The most recent changes in procedures, policies and standards direct particular attention to more stringent educational and/or employment requirements, encompassing the practice of Vocational Evaluation in other settings (CCWAVES, 1992). The undergraduate degree category for certification eligibility has been maintained as well. Specific course work criteria for candidates who have a master's degree with an emphasis in Vocational Evaluation are outlined in Table 1.

Table 1

CCWAVES Criteria for C.V.E. Eligibility

A. A minimum of four courses, with a primary focus on each of the following:
    - Philosophy and Process of Vocational Evaluation and Assessment
    - Behavioral Observation
    - Standardized Testing
    - Job Analysis or Occupational Information
    - Functional Aspects of Disability

B. A minimum of two additional courses (which may include a Vocational Evaluation/assessment practicum, but not an internship). Each course must have a primary focus on one of the following areas:
    - Individualized Vocational Evaluation Planning
    - Vocational Interviewing
    - Work Samples and Systems or Situational and Community-based Assessment
    - Vocational Evaluation Report Development and Communication

C. A minimum of one additional course with a primary focus on any one of the areas that follow:
    - Assessment of Learning
    - Functional Skills Assessment
    - Modification and Accommodation

D. Minimum internship of 320 hours with an emphasis on Vocational Evaluation.

Note. From Standards and procedures manual for certification in vocational evaluation (pp. 3-4) by CCWAVES, 1992, Rolling Meadows, IL: Author. Reprinted by permission.

The Council on Rehabilitation Education (CORE) is recognized as the accrediting body for rehabilitation counselor education. Over twenty years of incorporation, it has established and refined standards in master's degree level programs. Accreditation is based on compliance with standards in curriculum design and content. The requirements for master's degree curricula are presented in Table 2.

Table 2
CORE Accreditation

C.1 Graduate Master's Requirements: 48 SH or 72 QH

C.2 The required curriculum of graduate study shall provide for obtaining essential knowledge, skills and attitudes necessary to function effectively as a professional rehabilitation counselor. Study units or courses would typically include, but are not limited to, the following areas:

C.2.1 Foundations of Rehabilitation Counseling
C.2.2 Counseling Services
C.2.3 Case Management
C.2.4 Vocational and Career Development
C.2.5 Assessment
C.2.6 Job Development and Placement
C.2.7 Research

D.1 Clinical Experience

D.1.1. Minimum of 100 clock hours practicum
D.1.2. Minimum of 600 clock hours internship

D.2 Supervision by CRC

Note: From Accreditation manual for rehabilitation counselor education programs (pp. 28-31) by Council on Rehabilitation

Education, Inc., 1991, Champaign, IL: Author. Reprinted by permission.

Both CCWAVES and CORE are interrelated and develop standards based upon current research and recommendations by leaders and practitioners in the field. Ultimately, the purposes of standards of practice are to establish minimum competencies to protect the consumers of service and to define professional status of the practitioner.

Methodology

To solicit field input, each master's level academic preparation program with an emphasis in vocational evaluation was contacted. The composition of the list included programs which were known to have received or were receiving RSA funds grant funds in the Long-Term Training category.

Initially each program was contacted by telephone in 1990 to inquire as to the willingness of the program to explore CORE accreditation in Vocational Evaluation, as well as to describe the numbers of enrolled students and the numbers of graduates over the last three years.

At the same time, each program coordinator contacted was asked to identify any other similar programs that were known in the country. With cross referrals, the number of programs involved in the research grew and stabilized at seventeen. Table 3 lists each program contacted, the status of the Vocational Evaluation course curriculum, and the concentration or emphasis of the degree plan of study.

Table 3

Master's Level Degree Programs Advertised with a Concentration and Emphasis in Vocational Evaluation

University	Concentration and Emphasis
Study Participants	
University of Wis.-Stout	Rehabilitation
East Carolina University	Rehabilitation
Auburn University	Rehabilitation
University of Arizona	Rehabilitation
University of North Texas	Rehabilitation
Southern Illinois University	Rehabilitation
Mississippi State University	Rehabilitation
George Washington University	Special Education
Univ.of Northern Colorado	Rehab. Couns
University of Georgia	Rehab. Couns
West Virginia University	Rehab. Couns
Non-Respondents	
San Jose State University	
Boston University	Rehab. Counseling
No Longer Offered	
University of Maryland	
Syracuse University	
University of Missouri-Columbia	

In the second year, 1991, each university program was recontacted by letter to provide copies of all syllabi for course work and all literature describing the Vocational Evaluation master's program. Eleven programs responded after a maximum of two follow-up telephone calls to each program coordinator; their syllabi are the sample for data analysis of current formal course work for Vocational Evaluation personnel.

Results

Analyses of the syllabi and plans of study involved tallying common course titles, objectives, and texts. These were then compared to the 14 CCWAVES Knowledge and Performance areas and the CORE guidelines for consensus of theme and content. The seven course model curriculum presented in Table 4 was derived from these analyses, with titles selected from common themes. The seven courses are (a) Assessment, (b) Medical and Psychosocial Aspects of Disability, (c) Job Development and Placement, (d) Principles and Practices of Vocational Evaluation, (e) Vocational Evaluation Systems and Techniques, (f) Interpretation and Application of Vocational Evaluation Data, and (g) Practicum. An internship of a minimum of 320 hours concentrated in Vocational Evaluation practice would be additional to receive a degree.

The CCWAVES Knowledge and Performance areas which match the common objectives of the course are listed underneath each proposed course. Those courses marked with an asterisk meet the recommended study units or courses for CORE accreditation. This matching was done to avoid duplication of courses and build upon existing capacity within rehabilitation counseling programs at many universities. Further, it would encourage more current rehabilitation programs to consider specialized course work in addition to counseling.

Table 4

Content of Proposed Curriculum in Vocational Evaluation

1. Assessment*
    - Standardized Testing*
2. Medical and Psychosocial Aspects of Disability*
    - Functional Aspects of Disability*
    - Functional Skills Assessment
3. Job Development and Placement*
    - Job Analysis*
    - Occupational Information*
    - Modification and Accommodation
4. Principles and Practices of Vocational Evaluation
    - Philosophy and Process of Vocational Evaluation and Assessment
    - Standardized Testing*
    - Individualized Vocational Evaluation Planning
    - Functional Aspects of Disability*
5. Vocational Evaluation Systems and Techniques
    - Job Analysis*
    - Work Samples and Systems
    - Situational and Community-based Assessment
6. Interpretation and Application of Vocational Evaluation Data
    - a) Diagnostic Vocational Evaluation
        - Vocational Interviewing

        Behavioral Observation
        Assessment of Learning
        Functional Skills Assessment
    b) Prognostic Vocational Evaluation
        Occupational Information*
        Report Development and Communication
        Modification and Accommodation*

7. Practicum
        Individualized Vocational Evaluation Planning
        Vocational Interviewing
        Work Samples and Systems
        Community-based Assessment
        Vocational Evaluation Report Development and Communication

* CORE recommended study units or courses.

Discussion

Results of this study indicated a strong level of support for standards to insure constancy among curricula identified as concentrations or emphases in vocational evaluation. Eight of the twelve programs contacted (one does not currently offer a master's degree concentration in vocational evaluation) affirmed that such standards would help insure that programs purporting to be "vocational evaluation" graduate programs include the fundamental components of vocational evaluation as defined by the profession. Currently, graduate programs in vocational evaluation may range from being very comprehensive (15-20 semester hours of dedicated vocational evaluation course work) to a relatively narrow program that may offer only one or two generic assessment courses, scheduled on an irregular basis. It is also possible for current programs to offer course work with misleading titles which do not address fully those topic areas considered foundational to vocational evaluation.

Further, standards were viewed by the respondents as a powerful mechanism to define the emphases of practica, internships, and other field experiences which would meet standards of quality for graduate programs. As a part of the accreditation process, systematic and periodic evaluations would occur to ensure currency and relevance of student learning during these experiences.

The impact of standards would be felt beyond course content to career issues as well, respondents indicated. Standards would shape the mission and identity of the profession, as well as to insure specialization and professional distinction of skills. Such clear "lines of professional responsibility" would assist employers as well as other "customers" of rehabilitation services to understand the relationships of providers of rehabilitation services.

Lastly, standards would assist in the certification process. With consistency among graduate degree programs taught by faculty skilled in the subject areas, it is easier for CCWAVES, as the external certifying body, to review transcripts and determine the eligibility of candidates. The burden of applicants to document and verify course content and plans of study is lessened. Further, the confusion regarding dual certifications, such as CVE and CRC, would be reduced, both for the applicants as well as the respective certifying bodies.

Concern was raised by three of respondents as to both the expense and the overall intent of establishing a separate and distinct accreditation commission within CORE to monitor the development of these standards. Individual comments indicated dismay that CORE accreditation was viewed by their host departments as a significant expense that did not necessarily enhance curriculum development and student professional preparation. It would be difficult for those departments to defend the initiation of another accreditation process, separate in cost and content, within rehabilitation.

It is important to remember the key issues of this debate. One is the legislative mandate that now demands that professionals delivering quality services to persons with disabilities meet standards as established by national credentialing bodies. The standards established by CCWAVES would satisfy that mandate, but would impose additional educational requirements upon many practitioners.

With such a mandate, it is important to look at the current capacity in rehabilitation education and build upon it. There exist sufficient courses in rehabilitation counseling programs which overlap with vocational evaluation, as the proposed model curriculum attests. Other related professional disciplines in rehabilitation would overlap similarly, in terms of certain core courses, e.g. placement, assessment, and aspects of disability. Combining resources under one accreditation process would be more efficient, more cost effective, offer greater options to students for subsequent employment, diversify and enrich the core curriculum, as well as the specialty courses, and ultimately, provide a more prepared professional for service to the field.

REFERENCES

Baker, R.J. (1980). The certification process: Friend or foe. Vocational Evaluation and Work Adjustment Bulletin,13(3),79.

Beardsley, M.M., & Rubin, S.E. (1988). Rehabilitation service providers: An investigation of generic job tasks and knowledge. Rehabilitation Counseling Bulletin,32,122-139.

Coffey, D. (1978). Vocational evaluator competencies and their relevance as perceived by practitioners and educators in vocational evaluation (Doctoral dissertation, Auburn University). Dissertation Abstracts International,39, 3364-3365.

Commission on Certification of Work Adjustment and Vocational Evaluation Specialists (CCWAVES). (1992). Standards and procedures manual for certification in vocational evaluation. Rolling Meadows, IL: Author.

Congressional Record - House. (October 2, 1992). Conference report on H.R. 5482, Rehabilitation act amendments of 1992. Washington, DC: Author.

Council on Rehabilitation Education, Inc. (1991). Accreditation manual for rehabilitation counselor education programs. Champaign, IL: Author.

Early, J.K. (1988). Combining didactic and practical training to produce professional vocational evaluators. In R.R. Fry (Ed.), The issues papers: Third national forum on issues in vocational assessment (pp. 15-18). Menomonie, WI: Materials Development Center.

BEST COPY AVAILABLE

Emener, W.G., & Rubin, S.E. (1980). Rehabilitation counselors' roles and functions and sources of role strain. Journal of Applied Rehabilitation Counseling,11(2),57-69.

Graves, W.H., Coffey, D.D., Habeck, R., & Stude, E.W. (1987). NCRE position paper: Definition of the qualified rehabilitation professional. Rehabilitation Education,1,1-7.

Leahy, M.J., & Wright, G.N. (1988). Professional competencies of the vocational evaluator. Vocational Evaluation and Work Adjustment Bulletin, 21(4), 127-132.

Muthard, J.E., & Salomone, P. (1969). The roles and functions of the rehabilitation counselor. Rehabilitation Counseling Bulletin 13,81-168.

Pruitt, W.A. (1972). Task analysis of the vocational rehabilitation graduate major with an emphasis in work evaluation: A comparative study of two groups of work evaluators. Menomonie, Wisconsin: Graduate College, University of Wisconsin-Stout.

Rubin, S.E., Matkin, R.E., Ashley, J., Beardsley, M.M., May, V.R., Onstott, K., & Puckett, F.D. (1984). Roles and functions of certified rehabilitation counselors. Rehabilitation Counseling Bulletin,27,199-224.

Sink, J.M., & Porter, T.L. (1978). Convergence and divergence in rehabilitation counseling and vocational evaluation. Journal of Applied Rehabilitation Counseling,9(1),5-20.

Sink, J.M., Porter, T.L., Rubin, S.E., & Painter, L.C. (1979). Competencies related to the work of the rehabilitation counselor and vocational evaluator(Vol. 1). Athens, GA: University of Georgia.

Taylor, D.W., Bordieri, J.E., Crimando, W., & Janikowski, T.P. (in press). Job tasks and functions of vocational evaluators in three sectors of practice. Vocational Evaluation and Work Adjustment Bulletin.

Thomas, S.W., & Sigmon, G.L. (1989). Critical content areas for graduate vocational evaluation education. Rehabilitation Education,3,35-42.

Wright, G.N., Leahy, M.C., & Shapson, P.R. (1987). Rehabilitation skills inventory: Importance of counselor competencies. Rehabilitation Counseling Bulletin,31(2), 107-118.

Darrell W. Taylor
Rehabilitation Institute
College of Education
Southern Illinois University
Carbondale, IL 62901

Effective Consumer-Counselor Interactions in Vocational Rehabilitation: Empowerment Issues for Rehabilitation Consumers, Counselors, and Service Providers

Thomas Czerlinsky, Ph.D., C.R.C.
The University of Texas Southwestern Medical Center at Dallas

ABSTRACT

The empowered consumer has gained increasing emphasis, and it has become critical that consumers be active partners and participants in the rehabilitation process. Numerous pieces of recent legislation, such as the 1992 Amendments to the Rehabilitation Act, and the Americans with Disabilities Act (ADA), support this movement. The present study is one of the first empirically based national investigations which addresses this issue for the process of rehabilitation. The project utilized a multi-tier survey methodology, conducted at the national level, which gathered input from consumers, rehabilitation professionals, activists, administrators and educators. Over three thousand individuals participated in this study.

Over 70 rehabilitation empowerment elements were identified and empirically evaluated, across six major categories: 1) Client Issues and Responsibilities; 2) Counselor Characteristics; 3) Counselor Roles; 4) Counseling Techniques; 5) Qualitative Counseling Elements; and 6) "Other" Issues. Each of the six categories had from 9 to 17 elements that were selected by participants as critical for producing an empowered rehabilitation partnership. Participants also "operationalized" those empowerment elements that were ranked as most significant. That is, they identified methods by which one can measure the extent of presence or absence of each rehabilitation element within the ongoing service provision relationship. As a result of this study, essential counseling elements, in terms of promoting consumer involvement, empowerment, and decision-making, have been identified and empirically evaluated, and models of service provision which promote such consumer involvement have been identified and developed.

INTRODUCTION

Rehabilitation consumers, because of Federal legislation, the changing social climate, and heightened awareness and self-advocacy, are increasingly becoming more active participants in the spectrum of rehabilitation services (Campbell, 1991; Nichols, 1990; Nosek, 1990; Schmidt, 1991). This is a two-way street, in that as consumers become more active decision-makers, they benefit more directly from their own participation, and rehabilitation service providers, likewise, gain increased benefits from improved outcomes and consumer satisfaction.

Numerous pieces of current legislation, such as the 1992 Amendments to the Rehabilitation Act and the Americans with Disabilities Act (ADA), insure and protect the rights of individuals with disabilities. The ADA not only establishes work as a "vital part of rehabilitation" but mandates that all individuals with disabilities have the right to work, while the Rehabilitation Act Amendments provide increased attention by the state VR systems to the "Order of Selection Policies." Thus, state VR agencies must now adopt criteria for determining which individuals have the most severe disabilities. Additionally, the amendments mandate that individuals with severe disabilities are presumed to be capable of engaging in gainful employment in integrated settings, and must be active participants in their own rehabilitation programs. "The 1990's is and will be a decade of empowerment for persons with disabilities," according to RSA director Nell Carney (1991).

Consumer participation and active decision-making, while almost universally seen as positive goals and clearly mandated by federal regulations, have been studied very little (Emener, 1991). The specific elements of a rehabilitation relationship which directly promote consumer involvement, empowerment, and decision-making have also been subjected to very few empirical investigations.

PURPOSE OF THE STUDY

The purpose of this three-year federal project was to address these issues, and to identify and empirically evaluate those elements within the rehabilitation relationship which specifically promote active consumer participation, decision-making, and empowerment (Chandler & Czerlinsky, 1992; Czerlinsky & Chandler, 1992; Czerlinsky & Chandler, 1990; Czerlinsky, Chandler, & Moore, 1991). To accomplish these goals, the project utilized a three-part survey conducted at the national level. Step 1 involved obtaining a random sample of consumers, rehabilitation professionals, activists, administrators and educators.

Names were obtained from a variety of mailing lists, including:

- National Alliance for the Mentally Ill (NAMI)
- National Certified Counselors (NCC)
- Certified Rehabilitation Counselors (CRC)
- Rehabilitation Psychology (APA Division 22)
- American Rehabilitation Counseling Association (ARCA)
- National Rehabilitation Counseling Association (NRCA)
- Council of Rehabilitation Educators (CORE)
- National Council of Rehabilitation Educators (NCRE)
- National Association for Rehabilitation Practitioners in the Private Sector (NARRPS)
- Association for Counselor Education and Supervision (ACES)
- National Employment Counselors Association (NECA)
- Association for Multicultural Counseling and Development (AMCD)
- American Mental Health Counselors Association (AMHCA)
- National Association of Rehabilitation Instructors (NARI)
- National Rehabilitation Administration Association (NRAA)
- State Protection and Advocacy Agencies for Persons with Developmental Disabilities, Mental Illness, and Client Assistance Programs
- Directors of Rehabilitation Facilities

Three thousand individuals were sent an open ended questionnaire which explained the purpose of the study and asked them to indicate, in their own words, what they felt needed to be present in a rehabilitation relationship for an empowered partnership to exist. They were asked to list as many such empowerment elements as they wanted. In addition, they indicated demographic information about themselves, including their own disability (if they had one), or primary disability of the group of consumers with whom they worked (if they were service providers).

Step 1 resulted in a total of 3,200 partnership building and empowerment elements being returned. Many of these, of course, overlapped, but many also were quite unique. These open-ended elements were then subjected to extensive Q-sorting procedures, which allows data to settle into its own logical categories.

These Q-sorts resulted in six major categories of elements, which were:

1. Consumer Issues and Responsibilities
2. Service provider Characteristics
3. Service provider Roles
4. Rehabilitation Techniques
5. Qualitative Rehabilitation Elements
6. "Other" Issues

After combining duplicate items, a total of 733 rehabilitation empowerment elements were identified across these six categories. In Step 2, a booklet containing the six major categories and the 733 elements was mailed to each of the participants, and they were asked to consider all of the elements individually, and then to rate each element in terms of its importance to the empowerment and rehabilitation partnership-building process. Ratings could range from "0 - not at all important" to "6 - extremely important". Note that this step effectively eliminated all clues about how frequently each of the 733 elements was endorsed in Step 1. This was done so that each element could be rated on its own merit.

In Step 3, participants were invited to "operationalize" those empowerment elements that were ranked as most significant (mean >5.5). That is, they identified methods by which one can measure the extent of presence or absence of each empowerment element within on-going rehabilitation relationships.

In the second phase of the project, videotapes of ongoing rehabilitation relationships were filmed with selected service providers and consumers across the country, to empirically evaluate the efficacy of the identified elements. The service providers were then trained in how to include the defined critical elements in the rehabilitation interviews, and after the training, these same service providers were again videotaped in on-going sessions.

As a result of these two Phases, essential rehabilitation elements, in terms of promoting consumer involvement, empowerment, and decision-making, have been identified and empirically evaluated, and models of partnerships which promote such consumer involvement are being identified and/or developed.

MAJOR EMPOWERMENT ELEMENTS

I. Consumer Issues and Responsibilities

1. Consumer is responsible for actions and consequences:

Consumer accepts ownership of problems.

Consumer feels he or she has role in process.

2. Consumer is responsible for goals:

Consumer participates in plan.

3. Consumer is responsible for decision-making:

Consumer is actively involved in the process.

Consumer decision-making is encouraged by service provider.

Consumer has input into own future.

II. Service Provider Characteristics

1. Service Provider knows and admits own limitations:

Realization that you do not have all the answers.

Awareness of own personal and professional limitations.

Willingness to be wrong and admit it.

2. Service Provider has unconditional regard for the consumer:

Acceptance of consumer as a person.

3. Service Provider is motivated:

Motivated to listen to the consumer.

Regular attendance at sessions.

Communicate an interest in the consumer.

4. Service Provider education and training issues:

Constantly upgrading your skills and knowledge.

III. Service Provider Roles

1. Cultural and ethnic issues:

Recognition of own biases.

Avoid labelling the consumer.

IV. Rehabilitation Techniques

1. Treat consumer as an adult:

Address the consumer as an adult.

2. Communication skills:

Willingness to communicate with the consumer.

Communicate at an appropriate level for the consumer.

Speak directly to the consumer.

Listen and encourage consumer involvement in the process.

Be an active empathic listener.

3. Emphasis placed on consumer's strengths:

Help the consumer identify strengths.

4. Service Provider respects consumer's values and beliefs:

Belief in the rights of the consumer.

5. Rehabilitation process is a partnership/team effort:

Encourage consumer involvement.

Openness to consumer's questions.

V. Qualitative Rehabilitation Elements

1. Respect:

Show respect to the consumer.

2. Honesty and genuineness:

Service Provider and consumer relationship is honest.

Keep commitments and promises.

Answer questions as accurately as possible.

VI. Other Issues

1. Confidentiality and ethics:

Consumer has right to privacy.

Have a commitment to ethical practices.

Tape sessions only with permission.

Ensure confidentiality.

Consumer is able to discuss fears regarding confidentiality.

Maintain a professional manner throughout relationship.

Explain limits of confidentiality.

Maintain clear boundaries.

2. Vocational issues:

Consumer is an active participant in the job search.

3. Follow-up issues:

Follow through on commitments.

DISCUSSION

The inferences which can be drawn from the results of this study have clear implications for creating an empowered partnership between consumers and service providers. They provide clear recommendations about the effects such empowered partnerships can have on vocational outcomes and quality of life. The elements presented are those which are significant for all individuals with disabilities. Overall, the results have shown that the rehabilitation process for such consumers must be a nurturing and empathetic one. It is not a short-term process. Importantly, the consumers themselves must be actively included in all phases of the rehabilitation process, and their input must be actively and supportively sought. Once obtained, their input must serve to guide the course of the process. By becoming active participants in the rehabilitation process, they will become more proactive decision-makers, and will learn to become increasingly self-directed. Many individuals may have long histories of "having things done to them". Many consumers who have been immersed in the "system" may not have had the opportunity to learn how to direct their own lives, and they may actually have learned that dependence on a service provider and a service provision system is the way that their life should be lived. Additionally, they may not have had the opportunities to learn other alternatives. It is therefore extremely important for rehabilitation service providers to establish an environment (both physically and psychologically) which will foster empowerment among consumers. In this regard, the elements which have been presented must be particularly focussed upon, in order to achieve the most positive goals for consumers. There is no question that positive vocational outcomes have positive therapeutic benefit, and that such outcomes greatly help to enhance the quality of the lives of individuals. It is hoped that the results of this study will help create more empowered rehabilitation partnerships, and have direct positive benefits not only for service providers, but most importantly for all individuals with disabilities.

At the conclusion of this project, several critical products will be produced. Included among these will be: 1) A Service Provider's Handbook to Consumer Involvement; 2) Active Involvement in Rehabilitation: A

Guide for Rehabilitation Service Users; and 3) Video tape training packages on Consumer Involvement in Rehabilitation Partnerships, and Empowerment Issues for Rehabilitation Service Providers. Specific disability groups (with unique empowerment needs) will be focused upon in all of these products, whenever appropriate.

Overall, upon completion, this project will provide the essential information and models for rehabilitation service providers as well as consumers and advocates to maximize involvement and decision-making, and thereby help to optimize the outcome of the rehabilitation process for all parties involved.

REFERENCES

Campbell, J.F. (1991). The consumer movement and implications for vocational rehabilitation services. *Journal of Vocational Rehabilitation,* Vol 1 (3), 67-75.

Carney, N.C. (1991). Rehabilitation defined. *National Rehabilitation Association Newsletter,* March.

Chandler, S.K. & Czerlinsky, T. (1992). Consumer-counselor partnerships in the rehabilitation process: Strengthening empowerment. *Momentum: Vocational and Educational Services for Individuals with Disabilities,* Fall 1992, 24-32. (The University of the State of New York, The State Education Department, VESID).

Czerlinsky, T. & Chandler, S.K. (1992). *Empowerment issues for rehabilitation counselors and service providers: Seminar workbook.* Dallas, TX: UT Southwestern Medical Center, Department of Rehabilitation Science.

Czerlinsky, T. & Chandler, S.K. (1990). *Effective Consumer-Counselor Partnerships in the Rehabilitation Process.* A three-year federally funded NIDRR grant. Washington, D.C.: Department of Education.

Czerlinsky, T., Chandler, S.K., & Moore, L.M. (1991). *Consumer-counselor partnerships in rehabilitation counseling: What makes them work?* Paper presented at the 99th Annual Convention of the American Psychological Association, San Francisco, CA.

Emener, W.G. (1991). Empowerment in rehabilitation: An empowerment philosophy for rehabilitation in the 20th century. *The Journal of Rehabilitation,* Vol 54 (4), 7-12.

Nichols, J.L. (1990). Guest editorial: The new decade dawns: The search for quality and consumer empowerment converge. *Journal of Rehabilitation Administration,* Vol 14 (3), 169-170.

Nosek, M.A. (1992). Consumerism in the vocational rehabilitation system. *Momentum: Vocational and Educational Services for Individuals with Disabilities,* Fall 1992, 39-43. (The University of the State of New York, The State Education Department, VESID).

Schmidt, M.J. (1991). The role, function, and responsibilities of rehabilitation consumers and professionals in disability policy and law. *Journal of Applied Rehabilitation Counseling,* Vol 22 (4), 32-35.

Thomas Czerlinsky, Ph.D., C.R.C.

The University of Texas Southwestern Medical School
Southwestern Allied Health Sciences School
Department of Rehabilitation Science
5323 Harry Hines Blvd.
Dallas, Texas 75235-9088
(214) 648-2860

Dr. Czerlinsky is Director of Research, and Principal Investigator on a three year NIDRR funded grant to establish "empowered" partnerships between consumers and service providers.

A COMPARISON OF RECERTIFICATION REQUIREMENTS

Christine E. DeGraw, CVE
Lee H. Stroud, CVE

Abstract

A comparison was made of the certification renewal requirements of professional certifying bodies. The intent of the study was to determine the degree to which the recertification requirements of the Commission on Certification of Work Adjustment and Vocational Evaluation Services (CCWAVES) compare to those of similar certifying bodies.

The other certification bodies were chosen on the basis of the similarity of the particular profession to vocational evaluators. Professions in rehabilitation, education, and counseling were chosen, as well as, some in the medical field, the entry level of which was below the doctorate level.

The salient findings of the study are as follows:

- **there are no standards by which to judge renewal requirements. There is no body which sets standards for certifying bodies. Each profession has established its own standards.**
- **CCWAVES is similar to other professions surveyed in the cost and number of hours required for renewal of certification.**
- **Of the renewal requirements surveyed, CCWAVES and CRCC require more proof of the professional development activity and have greater documentation requirements.**

Charts were devised by which to more readily compare the recertification requirements. The findings were analyzed and discussed.

Introduction

In common usage, the terms certification, licensure, and even accreditation are often confused. According to Webster's Ninth New Collegiate Dictionary, a certificate is a document certifying that one has fulfilled the requirements of and may practice in a field. A license is a permission granted by a competent authority to engage in a business or occupation or in an activity otherwise unlawful. Accreditation is to give official authorization to or approval of, to recognize or vouch for as confirming with a standard. Certifications are usually granted by professional boards or educational agencies. Licenses are issued by governmental units: the state or federal government. One may, therefore, be both licensed and certified. Individuals are not accredited, however, as this term usually applies to facilities, campuses, and buildings.

What are the reasons one would enter and complete the sometimes arduous requirements of certification? In some occupations certification by the professional certification board permits some state requirements, such as an examination, to be waived. In those occupations certification has a visible value. In others certification is the gateway to licensure—certification is accepted as sufficient credentials to be licensed. Some occupations, however, have no other demonstrable value than to mark one as having attained a level of professionalism, skill, or attainment. It is the expectations one places on oneself or are placed by one's colleagues that causes one to maintain professional growth and desire certification.

The Encyclopedia of Associations lists 126 certifying boards, of which approximately 40 could be termed professional in nature. (Burek, 1993) There appears to be no central board or agency which certifies certification boards, but there are two which keep track of certifying bodies and another which specifies the requirements for CEU's.

Michael Hamm, of the National Organization for Competency Assurance, stated there is no common agreement on what certification actually is, though there is a clear distinction between certification and licensure. He noted that the credential acquires more value if there are requirements for recent professional development associated with it, especially in high tech areas where knowledge changes so rapidly. (personal communication, February 12, 1993)

The certification for vocational evaluators and work adjustment specialists is issued by the Commission on Certification of Work Adjustment and Vocational Evaluation Specialists(CCWAVES) which was established in 1981. (Commission on Certification of Work Adjustment and Vocational Evaluation Specialists [CCWAVES], 1983) This was the culmination of several years of effort, dating at least to 1975 when VEWAA formed a Certification Committee to study the issue of certification. The CCWAVES Certification Manual offers the following rationale:

The purpose of the certification program is to recognize the professional qualifications of work adjustment and vocational evaluation specialists, in order to provide those individuals who receive such services with assurance that they are being served by qualified professionals. The two service components usually exert a direct influence on the rest of the consumer's vocational and social life. These types of services are commonly offered through education programs, rehabilitation programs, industry, manpower programs, insurance, and in hospital and medical settings. To be inadequately served could significantly hinder the consumer from reaching toward and achieving his or her potential.

In terms of the benefits to the professionals themselves, certification provides recognition and acceptance by other professions. A meaningful and viable certification program also facilitates clarification of practitioner roles and functions, highlights training needs of entry level practitioners, and reinforces professional growth and development for more advanced professionals. (CCWAVES, 1983)

Background

The two presenters, Lee Stroud and Christine DeGraw, are both certified vocational evaluators and certified teachers. Chris is also a certified educational administrator and Lee is a certified school psychologist. Additionally, Lee is a Licensed School Psychologist and Licensed Professional Counselor. In renewing their vocational evaluator certifications within the last few years, Lee and Chris made informal comparisons among the requirements for renewal of other certifications and licenses. The documentation requirements for renewal as vocational evaluator was seen, comparatively, as stringent. Discussions with other certified vocational evaluators supported that view. Initial investigation determined the absence of a standard for certifying boards. Thus was born the need for a comparison of the renewal requirements among comparable professions.

Procedure

A list was developed of professionals with a similar level of training, who also provide services at a comparable level to vocational evaluators and work adjustment specialists. Letters were sent to the certification boards of these service providers requesting information about the requirements for renewal of certification. Follow-up telephone calls were made to obtain information found to be missing. A comparison was made of the pertinent factors—frequency of renewal, costs, renewal requirements, and documentation to be provided.

Findings

Table 1 shows the eight professions surveyed, with the certifying group, frequency of renewal, costs, and renewal requirements. Note that occupational therapists, speech-language pathologists, and audiologist do not require continuing education for renewal. (American Occupation Therapy Certification Board [AOTCB],1992; American Speech-Language Hearing Association [ASLHA],1992).This is misleading, however, as in most states these are licensed occupations, which already have continuing education requirements in order to practice. (personal communication, November 30, 1992.)

Since the renewal period for the various occupations varies, Table 2 displays the cost and hours of continuing education required on an annualized basis. Costs per year vary widely. Speech-language pathologists and audiologists are the highest at $150 (ASLHA, 1992), with vocational experts close at $125 (American Board of Vocational Experts [ABVE], 1992). There is no charge for renewal for occupational therapists. The remainder are about the same in cost. Some professions allow re-examination, in lieu of documentation of continuing education. Where this is available the yearly cost of the renewal through re-examination has been provided. Continuing education is usually not free and costs vary according to its source. The cost of such continuing education could not be computed in the yearly cost.

A variety of continuing education sources is acceptable, though some occupations provided fewer acceptable options. Table 3 compares the acceptable sources of continuing education. All professions note that credit may not be received for the performance of one's usual job functions. Most professions surveyed accepted both college credit (one credit equals 1.5 CEU's or 15 contact hours) and continuing education units (CEU's).

A CEU is a term used to define and measure approved programs of continuing education. One

CEU is equal to 10 contact hours—non-educational activities of workshops, such as business meetings and breaks, are not included. A variety of sponsors, including colleges, governmental agencies, and professional associations grant CEU's. Other continuing education activities accepted by several fields included independent study, publication of articles, presentations, attendance at conferences, workshops or seminars, research, and holding office in the professional organization.

It is in the documentation required for renewal that differences are most marked. Certified vocational evaluators must provide proof of all activities (CCWAVES, 1983). (see Table 4.) Original programs, written records of research, and copies of materials developed, for example, are required. Additionally, a completed form and additional fee is required. CCWAVES determines if the activity is acceptable and how many contact hours will be granted. The requirements for renewal of certification as a rehabilitation counselor are very similar (Commission on Rehabilitation Counselor Certification [CRCC], 1991), and appear to be the basis for the CCWAVES requirements. (see Table 5.)

In contrast, school psychologists determine if an activity is relevant to their needs. (see Table 6) Pre-approval of the activity is not required and neither is extensive documentation. For some activities, only a completed form is required. The continuing education must be in at least three of the content areas and, in some cases, there are specific limits on the number of contact hours per activity for the renewal period. (National Association of School Psychologists [NASP], 1989)

Certified counselors may also determine if the activity is relevant to their needs, though activities must be related to specific content areas. (see Table 7.) A little more documentation is required than for school psychologists. While the documentation should be maintained, it is not required to be submitted. Only ten percent of those seeking renewal are asked to submit documentation. (National Board for Certified Counselors [NBCC], 1990)

Vocational experts have few options for continuing education. Conferences and workshops are the main means to renewal. (see Table 8.) Recent conferences have been held in Las Vegas and Cancun, Mexico, which may be an incentive to attendance, but also increases the costs of continuing education. (ABVE, 1992)

Discussion

It was not the intent of this study to investigate the initial certification or licensing requirements of the various professions surveyed. If it had been, some of those chosen might have been excluded and other professions might have been included. The three professions which have negligible renewal requirements, for example, made limited contributions to the survey.

There are no uniform or common certifying standards. It is impossible to say, then, that this or that certifying body is off the mark or too stringent or too lenient. Each profession has accepted the certification standards its certifying body has developed. Very likely each certifying body did its best to arrive at fair requirements and, evidently, reflected the desires of its parent organization or profession. Since most of the certifying bodies are composed of dedicated, unpaid professionals, their efforts should be appreciated.

Of the eight professions surveyed there are, perhaps, two continua on which they can be placed readily—though some may sit uncomfortably—cost and hours of professional development required.
(see Table 2.)

Cost

- Most striking among the renewal costs is that of the occupational therapists, who pay nothing. Once they are certified, unless their certification is revoked or they have done something to be placed on probation, they are merely notified every five years that their certification has been renewed. (AOTCB, 1992)
- Three of the professions surveyed stand out for the amount of the renewal fees required: vocational experts, speech-language pathologists, and audiologists. (ABVE, 1992; ASLHA, 1992)
- Additional processing fees are required by only the certifying bodies of the vocational evaluators and rehabilitation counselors. (CCWAVES, 1992; CRCC, 1991)

Hours

- There is apparent agreement that fifteen to twenty hours a year, or thereabouts, is a reasonable minimum of hours to put toward professional growth. With a range of 14 to 25 hours, and four out of five professions within a range of six hours, however, it is difficult to see a pattern in the hours of professional development required among the professions surveyed.
- There may be a tendency for professions the majority of whose certificants work for governmental agencies to require more hours. Governmental agencies often allow time for training—with pay. Private practitioners who take time for professional development often sacrifice income to do so.

Documentation Required

The greatest variation is in the area of documentation required. The Board which certifies vocational experts, for example, may have felt their profession is so specialized that there is little available outside of conferences and workshops that would provide opportunities for professional growth in their field. For school psychologists, credit towards renewal of certification is allowed for supervising interns—a required part of a school psychologist's training. The Commission which certifies vocational evaluators allowed credit for the time and effort required to write good items for the certification examination it was in the process of developing.

The documentation required by the certifying bodies under study have two dimensions which can be compared readily: 1. control over activities and allocation of credit, and 2. and the amount of proof required.

Activities and Allocation of Credit. The activities and credit allocated vary from the occupational therapists, who have no requirements for professional development activities to the vocational experts, who may earn credit towards renewal through only two activities, conferences and workshops and offices in the professional organization. In between are the certified counselors and school psychologists, who are allowed to engage in a variety of activities, but are limited to a given number of hours in each. (see Tables 6 & 7.)

Amount of Proof Required. There is, again, much variation in the amount of proof required to satisfy the certifying bodies that the professional development did indeed take place. The school psychologists require limited proof of professional development activity, requiring, in many instances, only a completed form and pledge on the part of the certificant. To the other extreme, vocational evaluators and rehabilitation counselors must provide detailed documentation for each activity in addition to a completed form and processing fee.

Illustration:

To compare the differences between the various certifying bodies, let's use our presentation here today:

To use this presentation to obtain renewal credits as a certified vocational evaluator, I would estimate the number of hours I spent preparing for the presentation. CCWAVES would determine the number I would receive. I would have to submit a form and include a copy of my notes, references, and a copy of the program with my name shown as a presenter. A fee of $15.00 would also be needed. (CCWAVES, 1992)

As a certified rehabilitation counselor, CRCC would determine my hours. I would have to submit a form, references, and a copy of the program with my name shown. A fee of $5.00 is required. (CRCC, 1991)

As a certified school psychologist, I would complete and sign a form. I would be limited to 15 hours for the presentation, 25 hours if it included research. (NASP, 1989)

As a certified counselor, I could get no credit for my presentation. Since the presentation will be published, however, I would be able to receive 20 hours credit. A copy of the table of contents or cover page is required. (CRCC, 1990)

As a certified vocational expert, I could not receive credit for my presentation.

Observations

Two observations relative to the renewal requirements are in order:

1. The members of the CCWAVES Board are dedicated, nonpaid professionals who have the best of intentions and want the best for our profession. As such, their efforts should be truly appreciated.
2. Things change as conditions and perceptions change.
   a. initially CCWAVES required 120 hours for renewal—now only 80 hours are required,
   b. initially original documentation was required—now copies are accepted,
   c. initially professional development was limited to preapproved CEUs, college courses, or retaking of the national examination—now preapproval is not required for CEUs, and other avenues are available via independent study. (CCWAVES, 1982, 1992)

Conclusions

It is hoped this comparison may be of benefit to a number of groups:

- to those responsible for certification renewal requirements—not that they would rush to emulate the efforts of another professional certification body, but by comparison may see a better way to certify their certificants and still assure that those who receive services are being served by qualified professionals,
- to those who struggle to meet certification renewal requirements—that they may gain an awareness of where they stand comparatively, and
- to those who are dissatisfied with the renewal requirements of their profession—that they may appreciate the ambiguity and complexity of the certification renewal process, take solice in their relative situation, or use these findings to lobby for change.

A Comparison of Recertification Requirements

Certifying Group	Profession	Frequency	Fees	Requirements
Commission on Rehabilitation Counselor Certification	Rehabilitation Counselor	5 years	125 100 exam 5 per item submitted 20 if 4 or more items submitted	100 hours of approved continuing education or re-examination
National Board for Certified Counselors	Certified Counselor	5 years	25 yearly 75 exam fee	100 hours professional development or re-examination
American Board of Vocational Experts	Vocational Expert	annual	125	14 hours professional development
National School Psychologist Certification Board	School Psychologist	3 years	65	75 hours professional development
Commission on Certification of Work Adjustment & Vocational Evaluation Specialists	Vocational Evaluators	5 yrs	125 150 exam 5 per item submitted 20 if 4 or more submitted	80 hours continuing education in approved areas or re-examination
American Occupational Therapy Certification Board, Inc	Occupational Therapist	5 yrs	none	none, reissued unless suspended or revoked
American Speech-Language-Hearing Association	Speech-Language Pathologists	annual	150	none, code of ethics mandates professional development throughout one's career
American Speech-Language-Hearing Association	Audiologist	annual	150	none, code of ethics mandates professional development throughout one's career

Table 1

Comparison of Annual Requirements for Renewal of Certification

	Cost Per Year		Hours Per Year (No Examination)
	With Continuing Ed	With Re-examination	
Rehabilitation Counselors	25	45	20
Certified Counselor	*25	40	20
Vocational Expert	125		14
School Psychologist	21.67		25
Vocational Evaluators	25	55	16
Occupational Therapist	0		N/A
Speech-Language-Pathologists	150		N/A
Audiologist	150		N/A

*yearly membership fee, not recertification fee

Table 2

Acceptable Means of Professional Development

Profession	College Credit	Independ. Study	Publish Articles	Present-ations	Conf/ W'kshops	Research	Corres'ce Courses	Profess. Office	Other
Rehabilitation Counselors	X	X	X	X	X	X	X		material/program development
Certified Counselor	X		X		X				dissertation, supervision, consult
Vocational Experts					X			X	
School Psychologist	X	X	X	X	X	X		X	intern supervision, prog.
planning/eval'n,									teaching
Voc'l Evaluators	X	X	X	X	X	X	X		test item develop
Occ Therapist									
Speech-Language Pathologists									
Audiologist									

Table 3

Documentation and Requirements for Continuing Education/Professional Development

Vocational Evaluators

- Hours must be in 14 knowledge and performance areas, e.g., job analysis, behavioral observation.
- Preapproved continuing education requires a verifying document from sponsoring organization (a fee is charged to these organizations).
- College credit requires transcript, grade sheet, or letter from instructor. Adequate description of course is needed, also, name of course, participant's name, dates, school.
- Fees for approval of continuing education are $5.00 per item or $20.00 for four or more submitted in a calender year.
- Attendance at conferences, training, or seminars requires completed approval form, detailed program/agenda, and proof of attendance.
- Independent study requires completed approval form, a written report, including notes and references. Fee of $15.00 is required.
- Development of curricula or inservice training requires completed approval form, notes and references, and copy of materials. Fee of $15.00 is required
- Presentations require completed approval form and copy of printed program with presenter's name.
- Test item development receives one contact hour per item upon acceptance. Documentation required. Two more hours can be earned for each test item that performs well statistically and is accepted into the item pool.

Table 4

Documentation and Requirements for Continuing Education/Professional Development

Rehabilitation Counselors

- continuing education must be related to five competency areas, e.g. job development, client assistance.
- Pre-approved workshops, conferences, training, etc. (submitted by sponsoring group and requirements met, ie. objectives, evaluation, barrier-free meeting site) require original attendance verification form issued by sponsoring organization.
- College courses require official transcript
- Fees for following are $5.00 per item, or $20 for any number in a calender year.
- Workshops, in-service, conferences, etc. not preapproved require completed request for approval, detailed program, and proof of completion.
- Professional presentations require completed request for approval, list of references utilized, and printed program with your name as presenter
- Professional publications require completed request for approval and copy of publication, including references.
- Research requires completed request for approval, list of references, and a copy of the outcome of the research.
- Training materials/training programs developed require completed request for approval, reference materials, and awritten material of results of study

Table 5

BEST COPY AVAILABLE

School Psychologist

- Of the 75 hours, continuing professional development must be in at least three of the six skills areas, for example, consultation, assessment, supervision. Pre-approval is not required for activities. School psychologists determine themselves if activity is relevant. In states where summary sheets are provided by state associations or state boards of education, these will be accepted as verification.
- Conferences, workshops, seminars documentation require certificate of attendance or an activity documentation form (provided in recertification booklet) and receipt for fees.
- College courses require transcript.
- A Continuing Professional Development activity form must be completed for all other acceptable activities. While documentation is not required, there are limits on the hours which may be claimed per activity.
- Teaching/inservice-hours equal those received by participants; credit once.
- Research-limit 10 hours.
- Program planning/evaluation-limit 25 hours
- Presentation-15 hours (25 with research included)
- Publication-five for editorial articles, 10 for non-research with references or poster presentation, 15 for research-based (25 including research).
- Sequenced self study-limited to two topics per renewal period. Hours determined by developer or by mastery of material (limited to 15 hours)
- Informal self study-must provide reading list with validation form. at least 4 resources per topic required) limit 15 hours per study, limited to two topics per renewal period.
- Professional organization leadership- stat or national school psychology organization, specific hours per office cited. Limited to one position per year per organization. limited to 20 hours per renewal period.
- Supervision-limited to 10 hours per supervision and 20 hours per period.

Table 6

Certified Counselors

- Recertification activities must be directed towards professionals in the mental health field and must focus on knowledge and skills in 9 content areas, i. e. counseling theory, lifestyle and career development.
- A list of approved providers is utilized. Activities from non-approved providers may qualify if meet guidelines. A folder containing documentation is maintained by individual.
- College courses require copy of transcript or grade report
- Seminars, workshops, conferences, etc. require copy of certificate or letter of attendance
- Publication (limited to referenced journals, chapter in edited book, or published book) require copy of cover page of article or book, or copy of table of contents. 20 hour limit per recertification period.
- Supervision/consultation received (must be regular with set agenda) requires letter from supervisor. Limited to 45 hours credit if taken for academic credit, 25 hour limit for other supervision.
- Dissertation requires copy of transcript. 45 hours limit.
- Leadership (specifics given, i.e. office in state or national organization, membership on state board) requires letters ofconfirmation. 20 hours limit.
- 10% of members are audited, that is, their documentation is reviewed. Others must maintain folder with documentation.

Table 7

Vocational Experts

- Attendance at conferences, workshops, seminars—related to six related areas, such as court testimony, rehabilitation issues—require verification.
- Participation as committee chair or officer of certifying board receives CEU's. No credit given for reading professional books, giving speeches, working on committees, or similar nonparticipant training.

Table 8

Christine E. DeGraw, CVE
Lee H. Stroud, CVE
Portsmouth Vocational Evaluation Center
Portsmouth (VA) Public Schools
2801 Turnpike Road
Portsmouth, Virginia 23707
804-393-5147

References

American Board of Vocational Experts. (1992). *American Board of Vocational Experts Continuing Education Guidelines.* Topeka, KS: Author.

American Occupation Therapy Certification Board, Inc. (1992). *Certification Requirements.* Rockville, MD: Author.

American Speech-Language Hearing Association. (1992). *Standards for the Certificates of Clinical Competence.* Rockville, MD: Author.

Burek, Deborah M. (Ed.). (1993). *Encyclopedia of Associations.* Detroit: Gale Research.

Commission on the Certification of Work Adjustment and Vocational Evaluator Specialists. (1992). *Standards and Criteria for Vocational Evaluator Certification Renewal.* Westminister, CA: Author.

Commission on the Certification of Work Adjustment and Vocational Evaluator Specialists. (1982). *Standards for Certification.* Westminister, CA: Author.

Commission on Rehabilitation Counselor Certification. (1991) *Criteria for Continuing Education and Certification Renewal.* Rolling Meadows, IL: Author.

National Association of School Psychologists. (1989). *Continuing Professional Development Program.* Silver Spring, MD: Author.

National Board for Certified Counselors. (1990). *Recertification Guidelines.* Greensboro, NC: Author.

National Registry of Microbiologists. (undated). Application for REcertification. Washington: Author.

Virginia Occupational Information Coordinating Committee. (1992) *Licensed Occupations in Virginia.*Richmond, VA: Author.

The 1991 Revised DOT: What's New and Different and its Impact on Traditional Evaluation Techniques

Jeffrey A. Truthan

Abstract

The 1991 Revision to the *Dictionary of Occupational Titles (4th Edition)* added some important new variables to the reported data. Since only about 20% of the content of the DOT was revised and the Department of Labor has not yet printed new characteristics of occupations information, it is difficult to understand what really is new. This paper compares many aspects of the old version to the revised edition. There is a discussion of the *Revised Handbook for Analyzing Jobs* (1991), and an analysis of the frequency with which the new worker characteristics data is reported. The impact of the subtleties of these many new changes on assessment instruments, techniques, and strategies is presented. Emphasis is placed on how to avoid dangerous judgments which may adversely affect the process of vocational analysis, particularly when using a computerized approach.

Author

Jeffrey A. Truthan, MS, CRC, CVE is the Chief Operating Officer of CAPCO: The Capability Corporation, Spokane, WA. He is the designer of a variety of computerized vocational tools tuned for analysis of transferable skills, career planning, litigation, job analysis, and job placement. Statistical assistance was contributed by Linda Baker at CAPCO.

Spurred by the Great Depression, the United States Department of Labor (DOL) began a program of occupational research beginning in 1934, categorizing occupations primarily by job content using techniques for job analysis pioneered in this era. During and after World War II, research focus shifted towards methods and techniques for matching the individual worker's characteristics to the requirements of a job (Miller, Treiman, Cain, and Roos, 1980). By the mid-sixties, *The Dictionary of Occupational Titles, Third Edition* (DOL, 1965) had evolved, with worker characteristics identified for occupations grouped by a new coding structure called Data-People-Things (DPT). The General Aptitude Test Battery and commercial development of assessment systems began to emerge using DPT technology.

DOL's third release of the *Handbook for Analyzing Jobs* (DOL, 1972) laid the foundation for data collection and coding procedures used by job analysts to construct the Fourth edition of the **DOT** (DOL, 1977). The Fourth edition added three more digits to the **DOT** code to create a unique key for each **DOT** occupation, a step essential to computerized retrieval of **DOT** information. The Fourth edition also responded to the civil rights activism of the sixties and seventies, reflecting a careful review of words to eliminate sex bias in occupational titles and descriptions.

By 1977, a private sector method was introduced which built upon the Fourth edition **DOT** and the 1972 **HAJ**. The Vocational Diagnosis and Assessment of Residual Employability (VDARE) process (McCroskey, Wattenbarger, Field, and Sink, 1977) introduced the first scientific method for analyzing transferability of skills. To accommodate the disability adjudication needs of the Social Security Administration, the DOL began to publish some of the detailed characteristics of the typical requirements of each of the unique occupations in the *Selected Characteristics of Occupations* (DOL, 1981). The DOL also made the complete unabridged data set available to commercial developers on magnetic computer tape. From this data tape emerged the popular *Classification of Jobs According to Worker Trait Factors* (Field & Field, 1980). The release of the magnetic data tape stimulated pioneering work by a variety of innovative software companies to automate **DOT** information (Fry, 1982; Botterbusch, 1983).

Suggestions from the rehabilitation community and the embryonic vocational software industry led the DOL to begin to revise the **HAJ** to better classify physical demand characteristics and environmental working conditions. *A Guide to Job Analysis* (MDC, 1982) was a preliminary version of a revised **HAJ**, showing the general direction of future changes in **DOT** characteristics. Supplements to the Fourth Edition were released (**DOL**, 1982, 1986). The 1986 **DOT** Supplement introduced some preliminary expanded worker characteristics, though only for the 875 new titles, not the original 12,099 titles of the Fourth Edition. Additional changes to the job analysis taxonomy were made, culminating in the only *official revision* to the **HAJ** (DOL, 1991).

The Dictionary of Occupational Titles, Revised Fourth Edition (DOL, 1991) follows the new **RHAJ** criteria. The revision was done to consolidate the 1977 **DOT** and its 1986 Supplement, to add new titles, and to delete obsolete titles. A Revised **SCO** is in preparation by DOL, but has not yet been released in print (as of March, 1993). DOL has permitted electronic release of the data ***prior*** to the official print publication, an historic event signaling DOL movement towards more timely data release through technology. A *Revised Classification of Jobs* (Field & Field, 1992) has been privately printed to enable hard copy access to the data. Many manufacturers of vocational software have already modified their products to take advantage of the precision available in these new worker characteristics. Significant structural changes in the **DOT** may occur later in this decade, pending the outcome of recommendations of the Advisory Panel on the **DOT** (APDOT) and funding to implement the recommendations.

What's new about the 1991 DOT?

As released by the DOL, the 1991 **DOT** was printed in two soft cover volumes. The pages were edge-banded to make lookups easier. A number of private sector companies have reprinted the **DOT**, some binding the two volumes into a convenient and durable hard cover single volume.

The 1977 **DOT** plus the 1986 Supplement had a combined total of 12,855 occupations. The 1991 **DOT** has only 12,741 unique **DOT** descriptions. These base titles are cross-referenced by over 20,000 alternate titles. The DOL claims that 844 occupations are "new". The author, however, only finds that 90 occupations are truly "new," since the DOL count includes the 875 "new" titles which have been listed in the **DOT** supplement since 1986. These 90 completely new titles are listed in Table 1. The titles include a new Occupational Group Arrangement (OGA) for computer related occupations. There are 14 "new" titles added in this OGA, with 7 existing **DOT** codes having been reassigned to this new OGA for a total of 21 computer data processing occupations.

The DOL added "trailer" information to each **DOT** description. This enables quick retrieval of basic worker characteristics without having to consult another resource document. Trailer data includes the Strength classification, General Educational Development (GED) - Reasoning, Math, and Language, Specific Vocational Preparation (SVP), Guide for Occupational Exploration Code (GOE), and the Date the description was Last Updated (DLU).

DOL claims to have reviewed all of the occupational definitions and made significant changes to 1,609 occupations based on additional information gathered from on-site observations of 10,000 jobs in more than 1,500 establishments in some 45 industries. The number of industries (Industry Designations) was reduced from 220 categories to only 140. The surviving industries are much more useful ... who will ever miss the "Excelsior" industry?

NEW 1991 Revised DOT Titles (by DOT Industry Designation)

Aircraft Manufacturing

007.362-010	NESTING OPERATOR, NUMERICAL CONTROL
553.362-014	AUTOCLAVE OPERATOR
606.382-026	ROBOTIC MACHINE OPERATOR
699.362-010	AUTOMATED CUTTING MACHINE OPERATOR
699.382-010	FLUID JET CUTTER OPERATOR

Any Industry

031.132-010	SUPERVISOR, NETWORK CONTROL OPERATORS
031.262-014	NETWORK CONTROL OPERATOR
823.261-030	DATA COMMUNICATIONS TECHNICIAN

Automobile Manufacturing

806.137-022	QUALITY ASSURANCE SUPERVISOR
806.367-014	QUALITY ASSURANCE GROUP LEADER
806.367-018	QUALITY ASSURANCE MONITOR

Clerical

221.362-030	COMPUTER PROCESSING SCHEDULER

Education

094.227-030	TEACHER, LEARNING DISABLED

Electrical Equipment

727.664-010	BATTERY ASSEMBLER, DRY CELL
820.684-010	TRANSFORMER ASSEMBLER II

Electronics Components

590.684-042	INTEGRATED CIRCUIT FABRICATOR
725.684-026	CATHODE RAY TUBE SALVAGE PROCESSOR

Financial

186.117-086	MANAGER, EXCHANGE FLOOR
186.167-070	ASSISTANT BRANCH MANAGER, FINANCIAL INSTITUTION
186.267-022	LOAN REVIEW ANALYST
186.267-026	UNDERWRITER, MORTGAGE LOAN
211.382-010	TELLER, VAULT
216.362-038	ELECTRONIC FUNDS TRANSFER COORDINATOR
216.362-046	TRANSFER CLERK
216.482-054	DIVIDEND CLERK
219.362-074	TRUST OPERATIONS ASSISTANT
249.137-034	SUPERVISOR, LENDING ACTIVITIES
249.362-018	MORTGAGE LOAN CLOSER

Government Services

195.267-022	CHILD SUPPORT OFFICER

Instruments & Apparatus

710.685-014	THERMOMETER PRODUCTION WORKER

Library

100.167-038	NEWS LIBRARIAN

Machine Shop

609.360-010	NUMERICAL CONTROL MACHINE SET-UP OPERATOR

Medical Services

075.127-034	NURSE, INFECTION CONTROL
075.167-014	QUALITY ASSURANCE COORDINATOR
076.121-018	EXERCISE PHYSIOLOGIST
078.261-026	CYTOGENETIC TECHNOLOGIST
078.261-034	MEDICAL RADIATION DOSIMETRIST
078.261-042	PHERESIS SPECIALIST
078.361-038	OPHTHALMIC TECHNICIAN
078.362-038	ELECTROMYOGRAPHIC TECHNICIAN
078.362-042	POLYSOMNOGRAPHIC TECHNICIAN
078.362-046	SPECIAL PROCEDURES TECHNOLOGIST, ANGIOGRAM
078.362-050	SPECIAL PROCEDURES TECHNOLOGIST, CARDIAC
078.362-054	SPECIAL PROCEDURES TECHNOLOGIST, CT SCAN
078.362-058	SPECIAL PROCEDURES TECHNOLOGIST, MAGNETIC
078.362-062	STRESS TEST TECHNICIAN
078.364-014	ECHOCARDIOGRAPH TECHNICIAN
079.151-010	TRANSPLANT COORDINATOR
079.362-018	TUMOR REGISTRAR
079.364-026	PARAMEDIC
143.362-014	OPHTHALMIC PHOTOGRAPHER

Motion Pictures

203.362-026	CAPTION WRITER

Printing and Publishing

221.167-026	CUSTOMER SERVICES COORDINATOR
651.685-026	ASSISTANT PRESS OPERATOR, OFFSET
651.686-014	FEEDER
651.686-022	ROLL TENDER
972.281-022	STRIPPER, LITHOGRAPHIC I
972.282-018	ELECTRONIC MASKING SYSTEM OPERATOR
972.284-010	FILM FLAT INSPECTOR
972.381-034	PROOFER, PREPRESS
972.687-010	PLATE INSPECTOR
976.684-038	CONTACT WORKER, LITHOGRAPHY
977.684-026	BENCH WORKER, BINDING
979.282-010	ELECTRONIC PREPRESS SYSTEM OPERATOR

Professional & Kindred

030.062-010	SOFTWARE ENGINEER
030.162-014	PROGRAMMER-ANALYST
030.162-022	SYSTEMS PROGRAMMER
031.262-010	DATA COMMUNICATIONS ANALYST
032.132-010	USER SUPPORT ANALYST SUPERVISOR
033.162-010	COMPUTER SECURITY COORDINATOR
033.162-014	DATA RECOVERY PLANNER
033.162-018	TECHNICAL SUPPORT SPECIALIST
033.262-010	QUALITY ASSURANCE ANALYST
033.362-010	COMPUTER SECURITY SPECIALIST
039.162-010	DATA BASE ADMINISTRATOR
039.162-014	DATA BASE DESIGN ANALYST
045.107-050	CLINICAL THERAPIST
045.107-054	COUNSELOR, MARRIAGE AND FAMILY
160.162-030	AUDITOR, DATA PROCESSING
169.167-082	MANAGER, COMPUTER OPERATIONS

Protective Devices

719.381-018	BLOCK MAKER

Radio-TV Broadcasting

159.147-018	SHOW HOST/HOSTESS
194.122-010	ACCESS COORDINATOR, CABLE TELEVISION
194.162-010	PROGRAM DIRECTOR, CABLE TELEVISION
194.262-022	MASTER CONTROL OPERATOR
194.362-022	TECHNICIAN, NEWS GATHERING
194.382-018	VIDEOTAPE OPERATOR
202.382-010	STENOCAPTIONER

Real Estate

186.167-074	CLOSER
186.167-090	MANAGER, TITLE SEARCH

Table 1 - Newest titles in the 1991 DOT

BEST COPY AVAILABLE

The DOL appears to have "taken the bull by the horns", focusing its on-site analyses within industries which have been most impacted by automation. These industries include:

- Aircraft manufacturing
- Automobile manufacturing
- Clerical
- Electronics
- Finance
- Instruments and apparatus
- Machine shop
- Medical services
- Printing and publishing

The author was able to identify significant changes in 1,544 occupations, many of which had multiple factors changed (such as strength, physical demands and working conditions, GED, SVP, aptitudes, and cross-references to other codes). The author's sampling of these significantly changed definitions revealed excellent work by DOL analysts. Many of the changed descriptions incorporated references to the use of computers as an essential component of the job tasks. Changes in worker characteristics ratings appear to have been in directions expected, with slightly higher GED levels and Clerical aptitude assigned if computer use was involved in a description.

A total of 310 existing occupations were identified which were assigned new **DOT** code numbers. DOL claims to have deleted 208 obsolete titles, but the author found that only 75 occupations were completely deleted in the revision. Rather, the author discovered 133 old occupations were combined into other, already existing **DOT** codes. This reflected DOL's desire to show how some narrow, highly focused jobs no longer exist. Many "real world" positions require performance of a multitude of duties.

Major Changes in Worker Characteristics

The Revised Handbook for Analyzing Jobs (**RHAJ**) is the primary reference document used by DOL job analysts to collect job data. Ambiguities in interpretation of worker characteristics vs. typical job requirements were resolved by study of the relevant descriptive material contained in the **RHAJ**. Being the foundation for the 1991 **DOT**, the **RHAJ** is a critical document for understanding the **DOT**. When purchasing the **RHAJ**, be sure that Chapter 9 contains 36 pages. The Government Printing Office misprinted this chapter, omitting 32 pages! Private sector reprints are available which include these missing pages.

As detailed in the **RHAJ**, there are significant changes in Strength, Physical Demands, Environmental Working Conditions, and Temperaments. GED and SVP definitions are unchanged. Bipolar interest ratings (i.e. 1A vs. 2B) were discontinued. Details on each of these areas are presented below.

Strength

The **RHAJ** presents a much clearer definition of Strength requirements than was given in the original **HAJ**. The new definition is quite specific on issues relating to the frequency, the forces, and the positions of the worker. The **RHAJ** (Chapter 12) presents a table which can also be inverted as presented below (Table 2).

STRENGTH - Per RHAJ (Chapter 12)

WEIGHT / FORCE Exerted to lift/carry/push/pull/move objects			
WORK DAY	Occasional (Up to 1/3)	Frequent (1/3 to 2/3)	Constant (2/3 or more)
Negligible	S	S	L
10 lbs. max.	S	L	M
20 lbs. max.	L	M	H
25 lbs. max.	M	M	V
50 lbs. max.	M	H	V
100 lbs. max.	H	V	V
Over 100 lbs.	V	V	V
POSITION Stand	S	L	L
Walk	S	L	L
Sit	L	L / S	S
Use Arm/Leg Controls	L	L	L

Table 2 - Revised Definition of Physical Demands

This new table will cause a major shift in common practice interpretation of the Strength factor. Strength is determined by evaluating a combination of factors such as lifting, carrying, pushing, pulling, moving objects, standing, walking, sitting, and using arm and/or leg controls. For a job to be considered sedentary, **both** weight/force and position criteria must be satisfied. Constant lifting of a negligible weight is now rated as Light work. Frequent lifting of 10 lbs. maximum is also considered to be light. Constant lifting of 20 lbs. maximum is rated as Heavy work. The structure of this table considers the fatigue inherent in repetitive performance of the exertional requirements of a job. This clear definition reflects DOL's growing sensitivity to the needs of rehabilitation practitioners.

Figure 1 shows no significant change in the overall distribution of occupations within the Strength category. However, there is a trend towards fewer Sedentary and Light occupational titles, and more Medium occupations. Figure 2 shows this trend clearly, although the frequency with which the "lost" occupational titles actually exist in the national economy may make such a trend analysis meaningless.

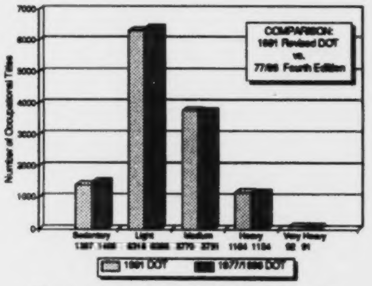


Figure 1 - 1991 vs. 1977/86 DOT Strength

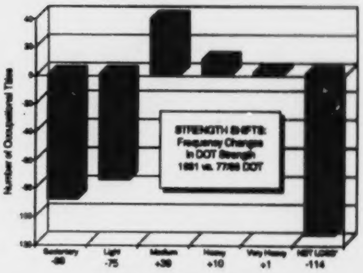


Figure 2 - Strength Shifts

Physical Demands

There are major changes in this realm. The original **HAJ** combined climbing and/or balancing, stooping with kneeling, crouching and/or crawling, reaching with handling, fingering and/or feeling, talking with hearing, and seeing. The **RHAJ** disaggregated these characteristics into discrete factors, added a new category for tasting/smelling, and expanded the seeing characteristic to six new factors (near acuity, far acuity, depth perception, accommodation, color vision, and field of vision). These new characteristics are no longer reported in a simple binary fashion as "present" or "not present". The **RHAJ** introduced an interval rating system based on the frequency of required performance during a normal work day. These intervals include:

N - Not Present
O - Occasional (Up to 1/3 of the work day)
F - Frequent (1/3 to 2/3 of the work day)
C - Constant (2/3 or more of the work day).

Table 3 lists the new Physical Demand factors and includes an important frequency distribution matrix. The author proposes a standardized set of distinctive acronyms as a more "friendly" alternative to the **RHAJ** numerical labels.

2 - CL - Climbing
3 - BA - Balancing
4 - ST - Stooping
5 - KN - Kneeling
6 - CR - Crouching
7 - CW - Crawling
8 - RE - Reaching
9 - HA - Handling
10 - FI - Fingering
11 - FE - Feeling
12 - TA - Talking
13 - HE - Hearing
14 - TS - Tasting/Smelling
15 - NE - Near Acuity
16 - FA - Far Acuity
17 - DE - Depth Perception
18 - AC - Accommodation
19 - CV - Color Vision
20 - FV - Field of Vision

FREQUENCY DISTRIBUTION

	Not Present	Occasional	Frequent	Constant
2 - CL	1104	1294	399	4
3 - BA	11828	680	223	10
4 - ST	8266	2992	1467	16
5 - KN	10910	1360	470	1
6 - CR	9975	1987	774	5
7 - CW	12353	321	67	0
8 - RE	110	953	10324	1354
9 - HA	98	891	10338	1414
10 - FI	2046	3683	6429	583
11 - FE	10718	1368	606	49
12 - TA	8169	1208	3252	112
13 - HE	7655	1595	3366	125
14 - TS	12636	72	33	0
15 - NE	1742	1725	8526	748
16 - FA	11231	669	784	57
17 - DE	6808	1868	3906	159
18 - AC	7862	2556	2109	214
19 - CV	7917	3429	1312	83
20 - FV	11800	409	483	49

Table 3 - New Physical Demand Factors

When using these new factors in computerized systems, it is essential that the user be fully aware of the frequency distribution matrix to understand the impact of choosing certain factors as restrictors. For example, an individual with a torn rotator cuff may have difficulty reaching above shoulder height. It is tempting to input a restriction so that only occupations would be selected in which reaching is not present. However, the new Reaching factor includes ***any kind*** of reaching, at, above, or below the shoulder and/or waist. This one input will produce almost no occupations, no matter how the search is conducted because there are only 110 occupations in the entire **DOT** in which reaching is rated as not present. ***The universe of available occupations can be severely restricted by a single input value.***

The new reaching and handling factors are heavily skewed towards the F - Frequent rating. This is also true for Near Acuity. This reduces the discriminative value of these new factors, although ratings were assigned by DOL job analysts with no consideration for job modification. Ratings were assigned based on observed frequency.

On the other hand, cumulative trauma disorders are handled well under the new rating system. The frequency of fingering is often the trigger for pain and dysfunction in a CTD case. The more even frequency distribution of ratings across the FI - Fingering dimension allows the rehabilitation professional to more precisely target a suitable set of occupational alternatives.

The Americans with Disabilities Act now requires employers to make an effort to reasonably accommodate workers. The author encourages rehabilitation professionals to use the least restrictive indicators of residual capacity, with the full awareness that some job accommodations and modifications may be appropriate and necessary at job placement.

Environmental Conditions

Once again in response to input from the rehabilitation community, the DOL greatly expanded its treatment of working conditions. The same frequency rating intervals are followed for these factors, except that the Noise factor is rated on a scale of 1-5 (Very Quiet to Very Loud). Table 4 lists each of the factors, again with the author's suggested "user-friendly acronyms".

1 - WE - Exposure to Weather
2 - CO - Extreme non-weather Cold
3 - HO - Extreme non-weather Heat
4 - WT - Wetness/Humidity
5 - NO - Noise intensity level
6 - VI - Vibration
7 - AT - Atmospheric conditions
8 - MV - Moving mechanical parts hazard
9 - EL - Electric shock hazard
10 - HI - High, exposed places
11 - RA - Radiation exposure hazard
12 - EX - Explosion hazard
13 - TX - Toxic/Caustic hazards
14 - OT - Other hazards

FREQUENCY DISTRIBUTION

	Not Present	Occasional	Frequent	Constant
1 - WE	10875	804	750	312
2 - CO	12631	70	35	5
3 - HO	11915	364	406	56
4 - WT	11594	543	509	95
5 - NO	*Rating from 1=Very Quiet to 5=Very Loud*			
6 - VI	12675	36	22	8
7 - AT	10993	820	765	163
8 - MV	12016	564	140	21
9 - EL	12590	101	50	0
10 - HI	12577	119	45	0
11 - RA	12870	51	16	4
12 - EX	12645	60	15	21
13 - TX	12371	312	45	13
14 - OT	11030	787	843	81

Table 4 - New Environmental Conditions

The frequency distributions for all of these factors are heavily skewed towards "Not Present," so the impact on database searches is relatively minimal.

Temperaments

Temperaments are the adaptability requirements made on the worker by specific types of job situations. The **HAJ** identified 10 temperament factors. The **RHAJ** dropped old Temperament M - Generalizing and deciding based on Measurable or verifiable criteria, combining it with Temperament J - Making Judgements and decisions. The RHAJ also introduced two new temperament factors, A - Working Alone or apart in physical isolation from others and U - Working Under specific instructions. Table 5 lists the temperament factors and gives frequency information.

N	Temperament
2229	D - DIRECTING, controlling, planning
5858	R - REPETITIVE, short cycle work
490	I - INFLUENCING people
2243	V - VARIETY of duties
171	E - EXPRESSING personal feelings
3	A - Working ALONE, apart from others
274	S - Performing under STRESS
6983	T - Attaining precise TOLERANCES
193	U - Work UNDER specific instructions
2897	P - Dealing with PEOPLE
6024	J - Make JUDGMENTS and decisions

Table 5 - Revised Temperament Factors

Specific Vocational Preparation

No changes were made to the SVP category. Table 6 shows that the cumulative frequency count distribution is remarkably stable. In the absence of a skills definition by the DOL since 1965, the author suggests four clusters of SVP: ***Unskilled*** (SVP = 1 or 2); ***Semi-Skilled*** (SVP = 3 or 4); ***Skilled*** (SVP = 5, 6, or 7); and ***Highly Skilled*** (SVP = 8 or 9). These clusters correspond to popular usage of these terms by the general public and by educational organizations.

	N	Length of SVP
Un-	191	1 - Short Demonstration Only
Skilled	2934	2 - Up to 30 Days
Semi-	2199	3 - 30 Days to 3 months
Skilled	1637	4 - 3 to 6 months
	1205	5 - 6 months to 1 year
Skilled	1328	6 - 1 to 2 years
	2055	7 - 2 to 4 years
Highly	1146	8 - 4 to 10 years
Skilled	46	9 - Over 10 years

Table 6 - Specific Vocational Preparation

A special analysis of SVP by Strength supports the widely held belief that more training/skills leads to less physically demanding work. Using the skills clusters advocated by the author, Figure 3 illustrates that Highly Skilled occupations are more Sedentary and Light in nature, Skilled jobs are more Sedentary, Light and Medium, Semi-Skilled jobs are more Light and Medium in nature, and Unskilled jobs are more Light, Medium and Heavy in nature.

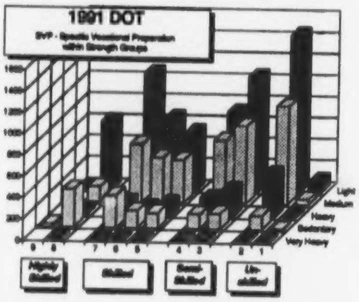


Figure 3 - Strength Distribution by SVP

General Educational Development

No changes were made to the GED taxonomy. The author noted that there were a considerable number of changes in the assigned GED levels for R, M, and L. A minor trend is seen in Table 7 showing a shift away from lower levels of GED-R,M,L towards average and high average areas. No clear pattern can emerge since less than 20% of the 1991 DOT was significantly changed or new.

COMPARISON OF
FREQUENCY DISTRIBUTIONS

1991 DOT			GED		1977/1986 DOT	
Reasoning	Math	Language	LEVEL	Reasoning	Math	Language
			(Low)			
821	4899	3966	1	836	4955	3992
4098	3556	3715	2	4112	3601	3760
3617	2756	2824	3	3655	2759	2848
2964	1005	1341	4	3009	978	1340
996	416	758	5	981	450	737
245	109	167	6	262	112	178
			(High)			

Table 7 - General Educational Development

Aptitudes

No changes were made to the Aptitude classification. The author observed in his sample review of significantly changed **DOT** descriptions that the Aptitude value for Q - Clerical Perception often was raised one level when computer use was added to the description of job duties. Table 8 presents the frequency distributions for each of the Aptitudes.

Other changes

The **RHAJ** also redefines WORK fields and Material, Product, Subject Matter, and Service (MPSMS) codes. There was a significant reshuffling of clusters in both schema. Some fields were eliminated; others were absorbed into existing codes. A new WORK field was created for Data Processing. The realignment of these codes is of great significance to proper analysis of transferable skills.

G - General Learning Ability
V - Verbal
N - Numerical
S - Spatial Perception
P - Form Perception
Q - Clerical Perception
K - Motor Coordination
F - Finger Dexterity
M - Manual Dexterity
E - Eye-Hand-Foot Coordination
C - Color Discrimination

APTITUDE FREQUENCY DISTRIBUTION

	1	2	3	4	5
G	334	1565	6087	4755	0
V	326	1291	3844	7199	81
N	149	780	4050	6470	1292
S	137	1121	4341	6853	289
P	65	1233	5762	5539	142
Q	26	694	3006	6490	2525
K	0	405	6134	6130	72
F	51	582	4581	7419	108
M	18	553	8661	3429	80
E	16	71	630	2673	9351
C	21	185	1053	3818	7664

Table 8 - Frequency Distribution of Aptitude Levels

SUMMARY

The author believes that the changes made to these taxonomies are excellent and will lead to even better analysis of transferable skills. WORK and MPSMS codes are the only proper method for determining transferability (Botterbusch, 1986).

Although DOL was able to significantly change only about 20% of the **DOT**, the author is impressed by the work done in the 1991 **DOT**. While not "perfect", the precision with which worker characteristics are catalogued is much more useful to the rehabilitation industry.

Users of computerized job matching systems have a tremendous responsibility to study the full meaning of these new characteristics. There must be a continuous focus on the frequency distributions to understand how the database will behave. The additional complexity of these new factors requires a computerized search to assure complete and accurate analysis.

Manufacturers of vocational software are notified of the periodic changes in **DOT** data made by DOL. Many data changes occurred during 1992 which were released only to the software manufacturers. The only regular method being used by the DOL for public dissemination of these data changes is through vocational software manufacturers. **DOT** users who want to conveniently access the most up-to-date DOL information will likely only be able to do so through reliance on reputable vocational software manufacturers.

Users of assessment instruments and career reference materials should carefully examine all instrumentation being purchased or used to be sure that **DOT** code references remain accurate. Commercial instrumentation should be reviewed by the manufacturer to insure that references to **DOT** codes, Strength, Physical Demands, Environmental Conditions, WORK fields, and MPSMS codes in manuals, interpretation guides, and scoring profiles, use the revised **DOT** and **RHAJ** codes and code structures.

References

Botterbusch, Karl F. (1983). *A Comparison of Computerized Job Matching Systems*. Menomonie, WI: University of Wisconsin, Stout Vocational Rehabilitation Institute, Materials Development Center.

Botterbusch, Karl F. (1986). *A Comparison of Computerized Job Matching Systems: Second Edition*. Menomonie, WI: University of Wisconsin, Stout Vocational Rehabilitation Institute, Materials Development Center.

Field, Timothy F. & Field, Janet E. (1980). *The Classification of Jobs According to Worker Trait Factors*. Roswell, GA: North Fulton Printing.

Field, Timothy F. & Field, Janet E. (1992). *The Classification of Jobs: 4th Revision*. Athens, GA: Elliott & Fitzpatrick, Inc.

Fry, Ronald R. Innovations in Vocational Evaluation and Work Adjustment: Ability Information System's Occupational Information System. *Vocational Evaluation and Work Adjustment Bulletin*, 1982, 15(3), 120-121.

Materials Development Center. (1982). *A Guide to Job Analysis*. Stout Vocational Rehabilitation Institute, University of Wisconsin - Stout. Menomonie, WI: Materials Development Center.

McCroskey, Billy J., Wattenbarger, William, Field, Timothy F., and Sink, Jack M. (1977). *The Vocational Diagnosis and Assessment of Residual Employability Handbook*. Athens, GA: Authors.

Miller, Ann R., Treiman, Donald J., Cain, Pamela S., and Roos, Patricia A. (1980). *Work, Jobs, and Occupations: A Critical Review of the Dictionary of Occupational Titles*. Washington, DC: National Academy Press. p. 115.

U.S. Department of Labor, Employment and Training Division. (1965). *Dictionary of Occupational Titles, Third Edition*. Washington, DC: U.S. Government Printing Office.

U.S. Department of Labor, Manpower Administration. (1972). *Handbook for Analyzing Jobs*. Washington, DC: U.S. Government Printing Office.

U.S. Department of Labor, Employment and Training Division. (1977). *Dictionary of Occupational Titles, Fourth Edition*. Washington, DC: U.S. Government Printing Office.

U.S. Department of Labor. (1981). *Selected Characteristics of Occupations defined in the Dictionary of Occupational Titles*. Washington, DC: U.S. Government Printing Office.

U.S. Department of Labor, Employment and Training Division. (1982). *Dictionary of Occupational Titles, Fourth Edition Supplement*. Washington, DC: U.S. Government Printing Office.

U.S. Department of Labor, Employment and Training Division. (1986). *Dictionary of Occupational Titles, Fourth Edition Supplement*. Washington, DC: U.S. Government Printing Office.

U.S. Department of Labor, Employment and Training Division. (1991). *Dictionary of Occupational Titles, Revised Fourth Edition*. Washington, DC: U.S. Government Printing Office.

U.S. Department of Labor, Employment and Training Administration. (1991). *The Revised Handbook for Analyzing Jobs*. Washington, DC: U.S. Government Printing Office.

Jeffrey A. Truthan, MS, CRC, CVE
CAPCO: The Capability Corporation
E. 5805 Sharp Avenue - Suite 103
Spokane, WA 99212

(509) 535-5000
(509) 535-1011 (Fax)

LOST LOSSES/FOUND OPPORTUNITIES

SYDNEY W. KELLER, CVE

Abstract

Successful conclusion of the vocational rehabilitation process necessitates both identifying and addressing the full range of needs and concerns of each individual experiencing a disabling condition. There is suggestion that the issue of loss, and the grieving process resultant from loss, specifically among those who have experienced acquired disability, are valid rehabilitation concerns not currently being addressed by rehabilitation professionals. Perspectives from consumers, vocational evaluators, rehabilitation specialists, practicing psychologists, and literature in the field of Death and Dying suggest that by recognizing and validating loss as a rehabilitation issue, consumers may be empowered to work more quickly and more successfully toward reinvestment and reestablishment. Need for further research and discussion within the rehabilitation community is indicated.

A woman in her mid-forties had been an over-the-road, cross-country tractor-trailer driver for some sixteen years. She sustained a work related injury resulting in two separate surgical procedures in which two herniated disks in her neck were fused. She has a GED, but nominal skills beyond those utilized in her work. She is advised she may not return to her former occupation. She presents with severe headaches, has difficulty concentrating and reports that she is depressed.

A man, also in his forties, had developed well defined skills not only as a master mechanic but had also trained personnel and managed several businesses during his many years in the automotive industry. He had not completed school. Skills had been acquired on the job. Automotive mechanics had been his life vocationally and avocationally. Proliferated retinopathy resulted in total blindness. He speaks of his dependency and of being ill prepared for his new status. He expresses his anger and shares his feelings of loneliness and sense of futility.

Another man in his thirties is seen. He had earned a degree in business management but had chosen quite unrelated work as a delivery truck driver for the past ten years. He sustained a lower back injury. He presents as a quiet and withdrawn individual with a noticeably flat affect. He sighs frequently, long deep sighs. He has difficulty concentrating. On several occasions he is observed to merely sit idly, gazing into space as though preoccupied with his thoughts. At one point he is engaged in conversation and encouraged to share those thoughts. He begins to cry. He shares his fears for his future, his love of his past now lost, and his depression over his new status. He states that he feels defeated and helpless.

And yet another man, in his forties, also sustained a lower back work related injury. He shares openly his dismay over his new circumstances. He too voluntarily admits to depression. He relates growing worry for his family and especially for his wife's inability to cope with the stresses that his injury has imposed on the family. She in fact had been hospitalized for her own depression following his injury. He views his new circumstances pessimistically and shares concern that his minimal academic skills will limit his vocational options.

LOST LOSSES

Persons having experienced acquired disability bring to the rehabilitation process issues and challenges which are substantively unique. The onset of disability for many is sudden. Impairment is generally permanent. Adjustment to primary life changes becomes immediate.

Disability is accompanied by multiple losses, losses which permeate all facets of an individual's life. Some speak of lost roles, lost contacts, lost lifestyles, lost dreams and lost opportunities. Others speak of lost income, lost status, lost function, lost aspirations, lost relationships, and lost self-esteem. Still others refer to lost self-confidence, lost dignity and lost identity. Nearly all share a sense of loss of control over their own lives and destinies. For many, the sense of estrangement and loneliness is exacerbated by the seemingly endless litigation process in which insurance carriers, physicians, attorneys, agencies and bureaucratic rules and regulations seem to further impede their efforts to reconstruct their lives.

PRELIMINARY INQUIRY

Basis for Inquiry

The concepts of loss and of the grieving process resultant from loss are more commonly thought to reside solely within the domain of those specializing in the field of Death and Dying. That these might also be significant rehabilitation issues is generally unfamiliar to and unrecognized by practitioners within the rehabilitation community. If however, loss is found to be a viable rehabilitation issue, then validating loss and exploring it's impact on the rehabilitation process may provide an opportunity to more fully and successfully address the needs of those who have experienced acquired disability.

Survey

In an effort to explore the proposition of loss as a rehabilitation issue, a preliminary survey was conducted in which twenty-five individuals were asked to respond to two questions:

1. Have you found that the issues confronting persons with acquired disabilities to be substantively different than the issues confronting persons with other disabilities?
2. If so, what do you see as the primary or most frequently presenting concerns expressed by these individuals?

Responses were recorded by phone, or when possible in person.

Survey Size and Composition

The twenty-five survey participants included five licensed doctoral level psychologists who were known to provide psychological evaluations for the targeted population; seven public sector vocational rehabilitation counselors from three different state VR offices in Maryland; two private sector rehabilitation consultants; five certified vocational evaluators; and six consumers with acquired disabilities who had been referred to this author for vocational evaluation services.

None of the twenty-five participants had prior knowledge of the purpose of the survey or of the survey questions. The six consumer participants had no prior contact either with each other or with any of the other nineteen participants. Of the nineteen professional participants only two, both psychologists, practiced locally. The remaining seventeen were employed throughout Maryland.

Survey Results

All twenty-five respondents agreed that the issues confronting those with acquired disabilities were substantively different from the issues confronting persons with other disabilities. Overall, seventeen words or phrases were used to describe those differences. Frequency of terms used varied however from group to group.

Terms most frequently used by psychologists were "loss", "grief or mourning", and "depression." "Loss" was the term most consistently used. One psychologist noted that he saw this population as very selective with the qualitative difference being their emotional response to the onset of disability. Theirs is a "uniquely different frustration - they had it and they lost it." Another psychologist stated that those with congenital disabilities have the opportunity to grieve slowly over time whereas those with newly acquired disabilities "have to grieve the loss before making an adjustment to it." Another spoke of the "trauma" associated with the onset of acquired disability and of the substantive issues as being "mourning, loss and ambiguity as to the future, with emotional components therein."

Both public and private sector vocational rehabilitation counselors used ten of the seventeen descriptors recorded. Most frequently used terms were "readjustment issues", "loss of self-esteem" and/or "self-confidence", "acceptance/denial" and "loss." Several noted that those with congenital disabilities as having made either negative or positive adjustments by the time they applied for services. By contrast, those with acquired disabilities were generally considered to still be in the process of adjustment. One counselor stated that she saw the core issues as being "major life style losses which one could equate with death in a family."

Vocational evaluators noted "readjustment" as the most commonly recognized issue. Loss, grief/mourning and depression were not used as descriptors.

During the vocational evaluation process, all six evaluees reported one or more conditions which they believed were negatively impacting on their performance. Conditions included: concentration and memory difficulties (6), severe headaches (3), somatic complaints other than disability related (6), and fatigue (5). Upon completion of their evaluations, each was asked the two survey questions. Issues identified included: "depression" (6), "anger" (3), "isolation/loneliness" (5), and "loss of self-esteem" and/or "self-confidence" (6). This was the only group to use the terms "isolation" and "loneliness". All six related that they felt "misunderstood." Each identified need to communicate their feelings and fears as a primary unmet need.

UNDERSTANDING LOSS AND GRIEF

Loss is a concept which our society has generally associated solely with death. Loss is in fact an experience which each of us will encounter hundreds if not thousands of time during our lifetimes. Loss implies change and "Change in itself always involves a loss." (Rando, 1988) Some changes result in positive consequences while other changes result in negative consequences. Every loss or gain involves change and every change involves loss or gain. (Knott, 1990) The infant whose mother leaves it's room experiences loss. The child who has competed for but not been selected for the team has sustained loss. The student who graduates and leaves the familiarity of classmates and routine and surroundings and roles has sustained losses. The worker who has been promoted or relocated has sustained loss. The employee whose job is lost due to injury and irreversible functional impairment has sustained loss. The couple who marries or divorces will each sustain losses. The woman whose children leave the home to establish their own homes has sustained loss. The man who retires has sustained loss. The aged whose care is now entrusted to a nursing home has sustained loss. "...loss always results in a deprivation of some kind" (Rando, 1988) and such "Loss is a unique stressor with it's own fallout" (Knott, 1990).

Grief has been described as "...that state of mental and physical pain which is experienced when the loss of a significant object, person or part of self is realized." (Stephenson, 1983) "...grief refers to the process of experiencing the psychological, social and physical reactions to your perception of loss." (Rando, 1988) Losses may be recognizable such as physical, or unrecognizable such as symbolic. (Rando, 1988) They may be apparent or unnoticed. (Knott, 1990) They are multidimensional. Rando (1990) suggests that one experiences grief reactions in three ways: by the feelings we have about the loss, by protesting the loss and wishing to undo it or have it undone, and by experiencing the effects from the assault on us caused by the loss. Grief serves as an adaptive process to take one beyond these reactions. Grief is our individual reaction to loss as we perceive that loss to be; it is normal; it is curative; it is essential for growth; it has it's own form, path and time frames, and it is an "accommodation to loss" (Knott, 1990).

Until quite recently the preponderance of research in the areas of grief and mourning have focused on socially recognized and socially sanctioned losses, ie: deaths of a parent, spouse or child. Current interest is focusing on what has been termed "disenfranchised grief." "Disenfranchised grief can be defined as the grief that persons experience when they incur a loss that is not or cannot be openly acknowledged, publicly mourned, or socially supported." (Doka, 1989) It is grief for which there are no "grieving rules" as with death and for which one is not recognized as having a legitimate right to grieve for losses not socially deemed or defined as significant. There are no recognized roles or rituals or supports. Grief becomes private and unacknowledged except by the griever. It is as though these individuals become an "underclass of grievers" whom we describe as disenfranchised by society from the normal grieving process." (Doka, 1989) They are the aging, the divorced, those engaged is nontraditional relationships, the mentally retarded, the physically disabled, the emotionally impaired and many many more. "While grieving is an intensely personal emotional experience, it takes place within a social reality that defines appropriate grieving behavior as well as the significance of the loss itself." (Stephenson, 1985) Whether a loss is considered appropriate or inappropriate it is societally defined. "...myths and unrealistic expectations that society maintains for grievers are some of the worst problems any griever has." (Rando, 1988) Grief becomes for these individuals more elusive and more difficult to identify and it is more frequently misidentified or misdiagnosed by virtue of society's disenfranchisement, yet their needs are the same; for reality; for expression of grief; for social support; and for a way to place the loss in a context of meaning. (Knott, 1990)

Implications

There are lessons to be learned from the research that is available and there is need for additional research. It has been proposed that "We don't know enough to understand the full range of what may be considered 'normal' grieving" (Wortman, 1989). It has also been suggested that need exists to find a methodology to quantitatively understand grief after loss. (Zinner, 1990) It is known that there are primary symptoms of grief: affective, cognitive, somatic and behavioral. (Knott, 1990) Experience and research have shown that need exists to "convey a sense of normalcy of their behavior - either expressed or thought" (Knott, 1990) to those who are grieving. What is needed is to: recognize individual uniqueness; look at all the aspects of a griever's life; be more tolerant; to not stereotype grief responses; to not apply qualifiers that suggest impairment; and to understand that it is detrimental to quell the pain of grief. (Sanders, 1989) Each grief encounter has situational and personal variables. To each new loss are brought old losses, whether resolved or not. The effects of concurrent and multiple losses need to be recognized. It is known too that each person works through certain phases of grief which may be recurring or overlapping. An "underclass of grievers" has been discovered for whom society has not recognized or identified acceptable "grieving rules." Society considers expression of grief a weakness and thus stigmatizes it. Human responses vary not only in intensity but in mode of expression. There are primary and secondary losses as well as primary and secondary gains. Each person who has sustained a loss "must learn to walk again, but in a different direction." (Bertman, 1990)

Results of this survey are in no way intended to imply that they are generalizable, valid or representative of opinions universally held among the participant groups represented. Some attempt was made as noted to minimize contamination of participant responses. The questions as posed and the method of survey are open to legitimate criticism. This was not however a scientific endeavor nor was it meant to be. Yet, the responses generated clearly suggest that need exists for further research and for utilizing research findings in the field. It also suggests that need exists for greater communication between types of service providers as well as the need to network with those currently engaged in research in bereavement as well as with those developing expertise in the area of grief counseling. It suggests too that rehabilitation professional need to be cognitive of where our clients are in the grief process and acknowledge their grief, as individualistic as it may be.

FOUND OPPORTUNITIES

Survey responses and literature review potentially give rise to found opportunities. There is opportunity to develop an awareness that grief and loss resolution are legitimate vocational rehabilitation issues to be openly explored and discussed. There is opportunity for self-assessment and change. There is opportunity to challenge imaginations and to be creative in addressing this component of the rehabilitation process. There is opportunity to listen to and learn from the lessons consumers have to teach. There is opportunity to expand professional training to include grief counseling. There is opportunity to sensitize systems and agencies and bureaucracies to better understand the larger spectrum of needs of the disabled. There is opportunity to engage, to empower, the disabled in the process of reinvestment and reestablishment.

How extensive the implications of these opportunities might be, as yet remain unknown. Certainly there is the potential to enhance the quality of rehabilitation services and outcome for the consumer. Addressing loss issues might also not only potentially shorten the rehabilitation process but might additionally result in reducing cost factors for all parties. Need for further research is indicated as is the need for discussion among rehabilitation professionals.

One psychologist observed, "Disability affects the family and caregivers as well as the individual, whether it be the family of commitment or the family of origin. Each go through the same trauma and need to mourn the loss and the impact of that loss, and to deal with the ambiguities." A rehabilitation counselor noted, "We've got to look at the psychological and emotional aspects of these disabilities somewhere early on in the rehabilitation process. We define ourselves by our employment, and when we lose a job we lose our identify as well as the myriad of other secondary losses: home, friends, lifestyle, marriage, et cetera. Perhaps we error by focusing too much attention on quick placement and miss the counseling aspect, the mourning that is needed." Perhaps the most meaningful words were those spoken by a consumer who shared this thought, "there just seem to be so many losses in my life that I simply don't know where to begin".

Is loss, and the need to grieve that loss, a legitimate rehabilitation issue? Is there need to explore the benefits of this proposition further? Is there need to examine how loss impacts on rehabilitation efforts? There is evidence to suggest that indeed there is. There may well be opportunity to turn loss into gain.

References

Bertman, S. (1990). The Language of Grief and the Art of Consolation: Challenges and Interventions from the Arts, Literature, and Pop-Culture. Scholarly report. Concurrent Session #27, ADEC-12th Annual Conference, New Orleans, LA.

Brabant, S. (1989-90). Old Pain or New Pain: A Social Psychological Approach to Recurrent Grief. *OMEGA-Journal of Death and Dying*, *20*(4), 273-279.

Crase, D. (1989). Death Education: It's Diversity and Multidisciplinary Focus. *Death Studies*, *13*(1), 25-29.

Doka, K. (1989). *Disenfranchised Grief, Recognizing Hidden Sorrow*. Lexington Books, MA:D.C. Heath.

Finley, M., & Lee, A. (1981). The Terminated Executive: It's Like Dying. *The Personnel and Guidance Journal*, *59*(6), 382-384.

Frears, L. & Schneider, J. (1981). Exploring Loss and Grief Within a Wholistic Framework. *The Personnel and Guidance Journal*, 59(6), 341-343.

Hansell, N. (1976). *The Person-in-Distress*. New York: Human Sciences Press.

Headington, B. (1981). Understanding a Core Experience: Loss. *The Personnel and Guidance Journal*, *59*(6), 338-341.

Heikkinen, C. (1981). Loss Resolution for Growth. *The Personnel and Guidance Journal*, *59*(6), 327-331.

Henrick, S. (1981). Spinal Cord Injury: A Special Kind of Loss. *The Personnel and Guidance Journal*, *59*(6), 355-358.

Kastenbaum, R. (1986). *Death, Society, and Human Experience*. Charles E. Merrill Publishing Company: A Bell & Howell Company.

Knott, G. (1990). Lecture notes and handouts, Course in Intermediate Grief Counseling, ADEC, New Orleans, LA.

Martin, J. (1988). Process Model of Grief Therapy in an Alcoholic Treatment Program. *Journal for Specialists in Group Work*, *14*, 46-52.

Mitchell, K. R., & Anderson, H. (1983). *All Our Losses, All Our Griefs*. Philadelphia: Westminster Press.

Myers, N. (1981). Surviving the Loss of Self-Identity, Journal of a Displaced Homemaker. The Personnel and Guidance Journal, 59(6), 405-406.

Parkes, C. M. (1980). Bereavement Counseling: Does It Work?. British Medical Journal, 281, 3-6.

Rando, T. (1990). Grief is Insufficient In Mourning: What's the Difference Between the Two, and Why Does It Matter Anyway? Concurrent Session, ADEC-12th Annual Conference, New Orleans, LA.

Rando, T. (1988). Grieving, How To Go On Living When Someone You Love Dies. Lexington Books, MA:D.C. Heath.

Romero, M. (1981). Multicultural Reality: The Pain of Growth. The Personnel and Guidance Journal, 59(6), 384.

Rupert, D. (1981). Introduction to the Special Issue: Loss. The Personnel and Guidance Journal, 59(6), 325.

Sanders, C. (1989). Grief, The Mourning After. A Wiley-Interscience Publication: John Wiley & Sons.

Stephenson, J. (1985). Death, Grief and Mourning. New York: The Free Press.

Stroebe, M., & Stroebe, W. (1989-90). Who Participates In Bereavement Research? A Review and Empirical Study. OMEGA-Journal of Death and Dying, 20(1), 1-29.

Widdison, H., & Salisbury, H. (1989-90). The Delayed Stress Syndrome: A Pathelogical Delayed Grief Reaction? OMEGA-Journal of Death and Dying, 20(4), 293-306.

Wortmann, C. & Silver R. (1989). The Myths of Coping With Loss. Journal of Consultants and Clinical Psychology, 57(3), 349-357.

Zinner, E. (1990). Use of the Grief Experience Inventory (GEI) In A Non-Death Loss/Bereavement Study of Mothers of Brain-Injured Adolescents And Young Adults. Research Report. Concurrent Session #21, ADEC-12th Annual Conference, New Orleans, LA.

Sydney W. Keller, CVE
Vocational Services Manager
JEANNE BUSSARD CENTER
555 South Market Street
Frederick, Maryland 21701
(301) 663-9588

THE POSITIVE IMPACT OF THE AMERICANS WITH DISABILITIES ACT AND THE WORKERS' COMPENSATION INSURANCE CRISIS ON VOCATIONAL ASSESSMENT/ADJUSTMENT PROFESSIONALS

Melvin D. Cooksey
Abilities Education Technologies, Inc.

Abstract

Vocational assessment/adjustment professionals have never been needed more than now to help both employers and injured/disabled workers. The Workers' Compensation insurance system, that all employers are required to be a part of, is in crisis. Vocational professionals are needed by employers, to assist them in reducing their Workers' Compensation costs, and by injured/disabled workers, to help provide them an equal access to the labor market. With implementation of the employment provisions of the Americans with Disabilities Act of 1990 (ADA) vocational professionals are needed even more to provide services to both employers and injured/disabled workers. This paper discusses the problems, solutions and opportunities for vocational professionals.

Vocational professionals have never been needed more than now to help American businesses and injured/disabled workers. The reason for this is three fold:

1. The Workers' Compensation system has been, is, and will continue to be in crisis until at least the remainder of this decade;
2. The Americans with Disabilities Act of 1990 (ADA) will help employers reduce their Workers' Compensation insurance costs while providing injured/disabled workers an equal opportunity to employment;
3. The skills vocational specialists possess will be required to assist both employers and injured/disabled workers.

Vocational professionals are presented with a unique opportunity. Employers and injured/disabled workers need our services. Employers need our services to help them reduce their ever increasing Workers' Compensation costs, which in 1990 amounted to more than $63,000,000,000. At the same time, injured/disabled workers need our services to ensure employment opportunities are available on a fair and equal basis.

As vocational professionals we do not have a choice. If we are part of the problem we risk potentially devastating ADA complaints and lawsuits being filed against.

Vocational professionals have been be enjoined in lawsuits such as those brought against Coca Cola Foods, Recruit U.S.A., and the West Chester County Medical Center. Coca-Cola Foods of Leesburg, Florida has agreed to pay up to $787,000 in back wages to twenty individuals with disabilities that it discriminated against (Employment Standards, 1992). Recruit, U.S.A., a national employment service, will pay up to $2,000,000 for discriminating against individuals (EEOC v. Recruit U.S.A.). West Chester County Medical Center has had $100,000,000 in Federal funds withheld because it restricted an asymptomatic HIV-infected pharmacist's duties (Health and Human Services News Release, 1993).

We can help employers reduce their Workers' Compensation costs by literally millions of dollars a year. Sprague Electric reduced their annual Workers' Compensation costs from $350,000 to $40,000 (Rosen, 1991); a San Diego hospital reduced its Workers' Compensation costs by over one and a half million dollars annually - from $2,000,000 to $400,000. Chesebrough Ponds reduced their costs from $10,000,000 to $5,000,000 annually (Eckenfelder, 1992). We are critically important in this process.

Vocational professionals are covered entities under the ADA. We are considered both agents of an employer and an employment agency by the EEOC. Covered entities are: "employers, employment agencies, labor organizations, and joint labor-management committees" (29 CFR 1630.2(b)) and agents of the above categories. Most of us are included in one or two categories: employment agencies or agents.

The above is true even if we are independent contractors. The enforcement provisions of the ADA come from the Civil Rights Act of 1991 which is an amendment to the Civil Rights Act of 1964. The definition of an "employment agency," according to Title VII of the 1964 Civil Rights Act is "any person who regularly undertakes with or without compensation to procure employees for an employer or to procure for employees opportunities to work for an employer and includes an agent of such a person." (§701(c)). Additionally, the definition of a "person" is "the term 'person' includes one or more individuals,..." (§701(A)).

How many of us have alternate formats for tests we administer such as the large print version of the WRAT? How many of us are prepared to bring in a sign language interpreter if necessary and deemed reasonable?

The first ADA Title III suit, United States of America v. Becker CPA Review, was filed by the Department of Justice because Becker CPA Review refused, in the government's opinion, to provide appropriate auxiliary aids, specifically, a sign language interpreter, for a deaf student. In the "Prayer for Relief" the Justice Department enjoined: "defendant Becker Course, its partners, officers, agents and employees, and all other persons in active concert or participation with any of them."

Notice the word 'agent' again. If we enjoined our professional liability policy may not cover damages for violations a Federal law, specifically, the ADA.

The 'exclusive remedy' provision of the Workers' Compensation Act provides that an injured worker can collect damages from only from the Workers' Compensation system. This provision does not apply to disability discrimination cases. The case of Hartman v. Mathis Bolinger Furniture illustrates the point. The ruling was that a state disability claim is not barred by the exclusive remedy provision of the Workers' Compensation Act. The court pointed out that it is not uncommon for an employee to file a Workers' Compensation claim for a work related disease or injury and then, in addition, charge the employer or agent with disability discrimination based on the employers' refusal to re-employ or to make a reasonable accommodation for the work related injury.

Imagine this scenario. We work as an agent of an employer and provide vocational testing, counseling, and placement services for one of the employer's injured workers. For a multitude of reasons the employee is not able to return to his former employer and new employment is unavailable. Eventually the employer reaches a financial settlement with the individual. A week later both the employer and we get a certified letter from the client's attorney saying they're filing a discrimination charge against us for under the ADA for refusing to accommodate. This is happening and will continue to happen as more and more plaintiff attorneys begin to understand the Workers' Compensation/ADA connection.

How serious is the Workers Compensation crisis? In 1980 the total cost of Workers' Compensation injuries was $23,000,000,000. Eight years later, the cost increased to $43,000,000,000. A $2,250,000,000 increase every year. From 1988 to 1990 it increased to $63,000,000,000. A $10,000,000,000 increase each year. That's a crisis. It's a crisis that vocational professionals can help reduce.

There are nine areas of the Workers' Compensation insurance crisis that have an impact on the ADA and on vocational professionals:

1. Insurance carriers have lost money on their Workers' Compensation line for eight consecutive years;
2. The number of work place deaths has decreased and injuries have increased for eight consecutive years;
3. The number of employers relegated to the assigned risk pool has increased for eight consecutive years;
4. The types of injuries covered by the Workers' Compensation laws continues to expand;
5. The number of fraudulent cases continues to rise;
6. Employer provided health care benefits are being curtailed;
7. Unemployment continues to be very high;
8. Medical health care costs continue to rise;
9. Attorney involvement and costs continue to rise.

Three of the above areas will have the most impact on vocational professionals. The first concerns attorney involvement. In 1951 there were 350,000 attorneys in this country. In 1991 there were 750,000. In the year 2000, only 7 years away, there will be 1,000,000. One for every 240 Americans.

These attorneys are going to need help. According to the Bureau of Labor Statistics, the two fastest growing professions between 1988 and the year 2000 will be paralegals, increasing by 75%, and medical assistants, increasing by 70% (Bureau of Labor Statistics, 1990).

The second area is the types of injuries being covered by Workers' Compensation. This is significant to vocational professionals because the majority of these injuries are going to require vocational specialists to assist the employer in either making accommodations or finding the injured employee another position.

Three specific types of injuries covered by Workers' Compensation are increasing: stress, repetitive motion syndrome, and lifestyle.

In California, 99% of all stress claims are litigated. Stress claims have increased 700% in the last five years (California Workers' Compensation Institute). They're still a small percentage of the total number of claims but they require a disproportionate amount of time and expense to resolve. It's also why job descriptions must include physical and mental demands.

Some examples of successful Workers' Compensation claims based on stress include the president of a bankrupt company becoming an alcoholic, a bank teller developing an anxiety neurosis after an attempted robbery, a New York advertising executive having a nervous breakdown and a Michigan assembly line worker having a heart attack. These were all successful Workers' Compensation claims based on stress.

The second area is repetitive motion syndrome - cumulative trauma disorder, repetitive strain injury. In the last 10 years repetitive motion injuries have increased from 18% of all occupational injuries in 1981 to 61% in 1991 (Bureau of National Statistics).

Surgery oftentimes does not have a higher success rate in returning injured workers to their previous position than less invasive medical treatment. In fact, neither one of the treatments have a high success rate in returning an injured worker to his previous position, with or without accommodations.

The last area of types of claims is lifestyle based injuries, including hearing loss, heart attacks, cancer and AIDS. More than 300 Workers' Compensation claims have been filed against one company for hearing loss. One plaintiff is 90 years old who has not worked for the company since 1947.

The last area of the Workers' Compensation insurance crisis I want to address is the growth of the residual market - the state funds, the assigned risk market. The residual market provides employers with Workers' Compensation insurance when no one else will. It's no longer for employers who do a poor job of protecting their workers. It's a result of many insurance carriers reducing the number of Workers' Compensation insurance policies they write. In some states, like Maine and Rhode Island, the residual market insures more than 50% of the employers.

Nationwide the percent of companies relegated to the residual market is growing dramatically. In 1984 only about 5% of the employers had to use the residual market. In 1990 it is estimated to be about 25% (Issues Report, 1992). Why is this important to vocational specialists? Many of these companies need our services. They can't afford to have inhouse nurses and vocational specialists and the residual market provider typically provides poor services and assistance.

The Workers' Compensation insurance system is in crisis. Vocational specialists are an integral part of helping reduce this crisis.

Vocational professionals are also an integral part of making the ADA work in the way it was intended. There are 64,000,000 disabled Americans. There are more than 120,000,000 working Americans.

The EEOC, which is responsible for enforcement of Title I, the employment provisions of the ADA, made two predictions. They predicted there would be 12,000 complaints filed in the first 12 months (Livingston, 1992) and they predicted most complaints would come from current, non-injured employees.

Employers in general ignored these predictions and, if they did anything, concentrated on removing physical barriers to employment and revisions of their hiring procedures and employment applications. Most employers still feel the ADA will have no impact on them.

The EEOC has been proven correct in both of their predictions. The number of complaints filed started out with only several hundred a month. In December and January there were almost 900 a month. There have been 4,300 Title I complaints filed through the end of January, 1992. At the present rate, there will undoubtedly be 12,000 complaints filed by the end of June, 1993.

Through the end of January, over 80% of all complaints have come from current employees. Most complaints have been for wrongful discharge or unwillingness to make reasonable accommodation.

The first Title I suit brought by the EEOC was for wrongful discharge. It was the EEOC versus AIC Security Investigations. It was filed on behalf of Mr. Charles Wessel who was the Executive Director of the Chicago office of AIC. He was fired after he found out he had an inoperable brain tumor (EEOC v. AIC Security).

This is only the beginning. It is a glimpse of the many ways our services will be required because of the Workers' Compensation/ADA connection.

Please Note: The contents of this article are derived and abbreviated from many sources and are not intended as legal or professional advice. If legal or professional advice is needed, a competent professional should be consulted.

References

Bureau of Labor Statistics, U.S. Department of Labor, May, 1990

Bureau of National Statistics, U.S. Bureau of Labor Statistics)

Eckenfelder, Donald J. (1992), Risk Management.

EEOC v. AIC Security Investigations Ltd., et al., No. 92-C-7330, N.D. Ill, Eastern Division)

EEOC v. Recruit, U.S.A. USDC NCalif, C-89-1853, SAW)

Employment Standards Administration Press Release, September 22, 1992

Hartman v. Mathis Bolinger Furniture Cp. 282 Cal. Rpt. 35 (Cal. Ct. App. 1991)

Health and Human Services News Release September 29, 1992; Department of Health and Human Services Civil Rights Reviewing Authority, Docket No. 91-50492, DAB Decision No. 1357.

Issues Report, 1992, National Council on Compensation Insurance, p. 10.

LaMott v. Apple Valley Health Care Center, 465 N.W.2d 585, 589 (Minn. Ct. Ap. 1991)

Livingston, Donald R., EEOC General Counsel, October 16, 1992.

Rosen, Robert H. with Lisa Berger (1991). The Healthy Company. Los Angeles: Jeremy P. Tarcher, Inc.

United States of America v. Becker CPA Review, U.S. District Court for the District of Columbia

Melvin D. Cooksey, Abilities Education Technologies, Inc., 1288 Valley Forge Road, Suite 67, PO Box 1154, Valley Forge, PA 19482-1154; 215-935-8607

INTERAGENCY COLLABORATION BETWEEN MENTAL HEALTH PROVIDERS AND VOCATIONAL REHABILITATION FACILITIES TO REINFORCE WORK ADJUSTMENT TREATMENT SUCCESS

ALICIA J. KUPCHIK, ACSW, CWA

Abstract

Efforts to clearly define the role of work adjustment in the rehabilitation process have eluded the profession for sometime, precisely due to the nature of this specialty area. During this phase of program, treatment objectives often call for the assistance of other human service providers in order to achieve desired results. The focus of this paper is to describe positive outcomes as a consequence of collaborative efforts on the part of a variety of agencies, both public and private. Continued vocational success can then be maintained as client services are transitioned to employee assistance programs.

Throughout the last several decades of the development of our profession, vocational rehabilitation has vacillated regarding its consideration of the area specifically known as "work adjustment". Though techniques peculiar to this treatment are widely used, it has been noted that there remains a paucity of research regarding the effectiveness of the process (Ayella, 1989). From its inception, work adjustment specialists have been advised that their primary tasks revolve around facilitating changes in maladapted individuals (Neff, 1968).

In fact, if we look at the rehabilitation process in a continuum, the areas of evaluation, skills training and placement conjure up well defined, crystallized images in terms of tools, cause and effect, and expected outcome. Assessment devices/tests such as the Bennett Mechanical, the Valpar, the Tower, the Apticon and the Mesa System add line and color to the vocational profile we seek to ascertain. Like a photograph, these tools provide us with a portrait that in fact, actually exists at the present time. In skills training programs, curriculum, exit criteria, and skill mastery are all more or less non-negotiable items that provide depth and landscape via activity to the scene. As an expample, PC Applications training programs currently teach utilization of software packages commensurate with present industry needs. To maintain marketability, software tutorials are regularly updated, but the information to be absorbed has a concrete definitive quality about it. The final product in rehabilitation is fine tuned during the placement process. Here, we utilize job seeking skills seminars which teach consumers how to construct a resume; interviewing skills are practiced; mock interviews are performed and again we follow clearly defined procedures that are customarily accepted in the world of employment. In fact, several outcome studies documenting vocational success in a psychiatrically disabled population, have demonstrated that those persons who succeeded in obtaining employment, regardless of diagnosis, performed well on job interviews (Jacobs, Wissusik, Collier, Stackman & Burkeman, 1992). What we're saying here, is that our people who succeed, do well in the dress rehearsal.

Do we expect these same characters to perform well at the outset of this process and if we do, then why do they need us? Students have often been heard to complain in evaluation that their key-boarding skills are poor because they've never typed before. We accept that and look for improvement over time.

In our need to "define" work adjustment, are we failing to recognize its most salient characteristic? Experience teaches us that persons referred for adjustment services demonstrate some clearly dysfunctional behaviors, that may be leading them towards a vocational "crisis", particularly if these behaviors prevent them from making professional gains. Our teachers have reminded us that the word for "crisis" in the Mandarin Chinese language combines the symbols for both chaos and opportunity. In another vein, chemical compounds are most often formulated when individual elements become unbalanced, losing or gaining electrons, thereby changing the valence of the entity. The moment of creation is a moment of instability. The climate of instability is a necessary condition for change.

The impressionistic style of rehabilitation then may indeed be the optimal foundation for successful work adjustment services. It leaves us open to new directions, unusual learning styles and the possibility of accessing to ancillary services, for it is at this stage of the process, that we should be able to feed in such assistance from external resources. As the process unfolds, we may even come to redefine what is a successful outcome for a particular client, as the world changes around us (Sartorius, 1992).

Treatment Strategies

The literature documents numbers of techniques useful in achieving rehabilitation oriented goals. Examining these counseling strategies more carefully, we see their origins in a variety of psychotherapeutic schools of thought, particularly those that are cognitive and behavioral in flavor (Joiner & Sawyer, 1992). Aaron Beck, a leader in this field, indicated that: "...the goal of cognitive therapy is to relieve emotional distress...the means is by focusing on the patient's misinterpretations, self defeating behaviors, and dysfunctional attitudes..."(Beck, Rush, Shaw & Emery, 1979, p.35). With an improvement in perspective then, we would expect increased performance, for mind-set or attitude can be regarded as the substrate of action.

Behavioral approaches, particularly contracting, is a frequently utilized technique of the work adjustment process. Surplus or deficit behaviors are targeted for change, as in the obsessive-compulsive individual whose detail oriented perspective impacts negatively on his ability to complete assigned tasks (Magrega & Couch, 1991).

As the basis of many of these counseling techniques emanate from a well developed mental health care system network across the country, why not access these "experts" in our mission of rehabilitation? Why do we feel we must "go it alone"? In fact, numbers of outcome studies have indicated that individuals with a primary and even a secondary disability relating to psychiatric compromise and/or substance abuse, need ongoing support services to perform work and maintain their health status (Hirsch, 1989). When discussing the cost/benefit comparisons of brokering services, case management models and capitation costs, it has become clear that case management approaches, particularly with the chronically mentally ill, demonstrate the most successful outcome for the consumer (Belcher, 1993).

Faced with the possibility that many of the behavioral changes targeted for improvement, may require periodic adjustment following completion of the rehabilitation process, it behooves us to facilitate our clients' referral to such supportive services while involved in work adjustment. With the intention of providing support to troubled workers, many corporations have developed Employee Assistance Programs, to accomplish very similar goals. Corporate contracts with large mental health care providers, for example Family Services of America, Inc., allow workers to pursue treatment external to the work environment (Kiernan & McGaughey, 1992).

Referral Process

If, as has been noted in the past, that: "...rehabilitation and traditional psychiatric treatment...should not be considered discrete categories but rather a seamless process of therapeutic interventions..." (Marshall & Demmler, 1990 p.28), then how are we to accomplish this smooth transition? Most often, our day to day experiences with consumers in training, provide us with instances of dysfunctional behavior that are addressed through crisis intervention techniques. These documented events provide us with opportunities to broach the topic of continued treatment. With repeated difficulties, infractions, disagreements, absences, etc., we as professionals gather more ammunition to fortify our argument and hopefully, enable the client to buy into the need for such treatment.

Individual referrals to out patient agencies, punctuated by strong follow up and tuned in to financial considerations in geographically desirable locations, make up a solid patchwork quilt of service provision. This type of collaboration effort not only reinforces work adjustment goals but provides the individual with the on-going support he may need post-placement (Learnard & Devereaux, 1992).

Financing of such treatment continues to be a concern. With a growing number of constituents becoming eligible and receiving Medicaid in the last decade, this medical insurance program may be accessed as a first means of payment. Community Mental Health Centers receiving federal assistance are mandated to provide sliding fee services to accommodate a wide range of clientele and many areas have at least one medically supervised detoxification substance abuse unit that will service indigent patients. The Alcoholic Anonymous/Narcotics Anonymous/Al-Anon network is notorious for providing daily group supports for recovering addicts which are completely free of charge (Renwick & Krywonis, 1992). In fact, continuing education for rehabilitation professionals who are asked to provide such a wide spectrum of services in an expanding field, is also quite costly. Psychiatric Institutes of America, Inc., which operates several private hospitals nation wide, often provides free continuing education programs open to area professionals on a regular basis. With investigation, methods to underwrite extraneous program costs come to light.

Continuing Support - Post Employment

Eliciting the assistance of both mental health providers and substance abuse professionals during the work adjustment period, reinforces the desirable work appropriate message while an individual is in training. As they move into employment, consumers will have already developed solid relationships with these out-patient providers, and should they require additional services, they will be cognizant of the referral process itself (Mudrick, 1991). In a survey of Fortune 500 companies, it was determined that an over whelming majority of these employers do not have a policy regarding specialized treatment to be directed towards the psychiatrically impaired (Jones, Gallagher III, Kelley & Massari, 1991). If we, as professional rehabilitation providers, can facilitate our constituents' transition to the appropriate out patient agency early in the work adjustment process, the probability of increased vocational success is clearly increased. The products of our impressionistic work adjustment landscape, could conceivably reward us with colors beyond our imagination.

References

Ayella, K.P. (1989). What is W.A.T. and what W.A.T. is not. Fourth National Forum on Issues in Vocational Assessment: The Issues Papers, 99-105.

Beck, A.T., Rush, A.J., Shaw, B.F. & Emery, G. (1979).Cognitive Therapy of Depression. New York: Gilford Press.

Belcher, J.R. (1993). The trade offs of developing a case management model for chronically mentally ill people. Health and Social Work, 18(1), 20-31.

Hirsch, S.W. (1989). Meeting the vocational needs of individuals with psychiatric disabilities through supported employment. Journal of Rehabilitation, 55(4), 26-31.

Jacobs, H.E., Wissusik, D., Collier, R., Stackman, D., & Burkeman, D. (1992). Correlations between psychiatric disabilities and vocational outcome. Hospital and Community Psychiatry, 43(4), 365-369.

Joiner, J.G., & Sawyer, H.W. (1992). Counseling strategies for adjustment services. Vocational Evaluation and Work Adjustment Bulletin, 25(3), 97-99.

Jones, B.J., Gallagher III, B.J., Kelley, J.M., & Massari, L.O. (1991). A survey of Fortune 500 coporate policies concerning the psychiatrically handicapped. Journal of Rehabilitation, 57(4), 31-35.

Kiernan, W.E., & McGaughey, M. (1992). A support mechanism for the worker with a disability. Journal of Rehabilitation, 58(2), 56-63

Learnard, L.T., & Devereaux, E. (1992). Occupational therapy update: A model for community practise. Hospital and Community Psychiatry, 43(9), 869-871.

Magrega, D. & Couch, R.H. (1991). Behavior modification for adjustment services: Empowerment via self management. Vocational Evaluation and Work Adjustment Bulletin, 24(1), 5-9.

Mudrick, N.R. (1991). An underdeveloped role for occupational and social work: Facilitating the employment of people with disabilities. Social Work, 36(6), 490-495.

Neff, W.S. (1968). Work and Human Behavior. New York: Atherton Press.

O'Hare, T. (1992). The substance-abusing chronically mentally ill client: Prevalence, assessment, treatment, and policy concerns. Social Work, 37(2), 185-187.

Renwick, R.M., & Krywonis, M. (1992). Personal and environmental factors related to employment: Implications for substance abuse intervention. Journal of Rehabilitation, 58(1), 23-28.

Sartorius, N. (1992). The chronic patient: Rehabilitation and quality of life. Hospital and Community Psychiatry, 43(12), 1180-1181.

Alicia J. Kupchik, MSW, CWA
Goodwill Industries of New Jersey, Inc.
400 Worthington Avenue
Harrison, NJ 07029

USING BEHAVIORAL RATING SCALES AS PART OF VOCATIONAL ASSESSMENT

Maureen McKenna, M.Ed., C.R.C., C.V.E.
Community Rehabilitation Services Of Annapolis
A NovaCare Operating Company

INTRODUCTION

Reviewing literature for this presentation revealed a paucity of publications addressing behavioral rating scales as an integral part of vocational evaluation. The few handbooks or articles published have been jewels of information in regards to implementing behavioral rating scales. A good deal of focus has been on using behavioral rating scales in sheltered workshops to provide descriptive and prescriptive information. Use of the information gleaned is primarily focused upon planning and implementation of work adjustment services.

The need for use of behavioral rating scales has certainly increased outside of the sheltered work setting because of a philosophical shift in vocational evaluation and work adjustment service delivery and because a more diversified range of "labeled" people with disabilities are receiving vocational services. The "place and train" movement, especially in community based rehabilitation, as opposed to the "train and place" posture of the past has impacted upon the need for new and adapted vocational service tools. Standardized diagnostic tools have increased and a new look at the usefulness of more informal tools, such as behavioral rating scales have increased in usage in community work trials, job try outs, and supportive/competitive employment settings. It has been stated that the best testing method of evaluation for a job is the job itself.[2]

As vocational specialists have been aware, a client's potential for competitive employment is ascertained most effectively by observing and describing worker behaviors. The ability to identify, train, and support generalization of imperative worker behaviors is fundamental to job retention. Many clients lose their jobs, not because they do not have the ability to do the tasks or meet production demands, but due to behaviors and adjustment problems on the job.[1] Behavioral rating scales offer both a methodology to observe, measure and change behavior as well as a tool to determine overall vocational abilities.[4]

BEHAVIORAL RATING SCALES VS. PROFILE SUMMARIES

In reviewing behavioral rating scales for this presentation and white paper, rating scales reviewed fell into two, sometimes overlapping, categories: behavioral rating scales and profile summary forms. Behavioral rating scales were representative of a high degree of "objectivity" (degree of behavioral specificity) and are largely "criterion-referenced" (the criterion for evaluation is set individually, rather than as a comparison with some larger population). In contrast, profile summary forms possess or scope (number of items, or types of items rated) and less degree of behavioral specificity. Profile summary forms measure a more comprehensive range of behavioral functioning, from recording depressed statements, measuring client performance on accessing and utilizing community transportation, to subtracting with regrouping. Behavioral rating scales give good on-site, job specific information. Profile summary forms give more general, holistic, prognostic information about return to work abilities.

BEHAVIORAL RATING SCALES: WORK PERFORMANCE AND WORK BEHAVIORS

Behavior rating scales look at work performance and work behavior. Work performance being defined as observable actions of an individual in relation to a work task. This includes abilities, skills, and physical capacities. Included in this arena is also assessment of learning style as it relates to work performance. Dale Thomas' Vocational Adaptivity Scale records some of this information. An example would be a client's ability to select the proper screwdriver or figure repair costs.

Behavior rating scales focus on observing and recording work behaviors. The definition of work behavior is the observable actions of an individual in relationship to the total setting or situation. This includes the client's interests and temperaments. An example of measurable work behaviors include the client arriving at work ten minutes late, the client verifying and clarifying instructions for a given task, how the client reacts to supervisor feedback, or how the client reacts to fire drills, etc.

When completing behavioral rating scales, it is important to address what, when, and how to observe behaviors. When reporting behaviors and performance, describe what happened, not what did not happen. Behavioral checklists sometimes only target negative behaviors. Raters must report setting, environment, and the people involved in the behavior observed and rated. Raters must be careful not to take the myopic approach - examining a single behavior and treating it independently of other relevant behaviors or environmental stimuli.

A rater must monitor when to use behavioral rating scales. Some appropriate methods may include:

- Time sampling (every 30 minutes, etc.)
- First week of evaluation

- Adjusting to new situation
- When given a new task
- End of task when given feedback by supervisor
- Special work site events (fire drills)
- Non-work activities (coffee breaks)

A rater should first re-evaluate the behavioral rating scale completely, before utilizing it and be trained on the definitions of the behaviors observed. It is beneficial for the rater to use standardized forms to avoid confusion. It is important to record behavior as soon as possible or use audio-visual aids when this is not possible. The rater must concern himself with how he, himself, feels the day that he is rating. He must also be aware of his own cultural biases as they may impact on his perception of behaviors observed.

CAUTIONS WITH BEHAVIORAL SCALES

In using behavioral rating scales as part of your behavioral rating scales as part of your behavioral assessment consideration of the following should be noted:

1) The client may do well when rating him on a formula task, but may not rate favorably when unfamiliar with the task or new learning is introduced. This is an important aspect to remember in today's everchanging job site.

2) The client may do well during the behavioral rating the day you are observing as part of the vocational evaluation process, but with increased stimulus in the environment they may not rate as well on another day.

3) Depending on the scope of the behavioral rating scale, clients may do well with behavior on the job but cannot access a way to work, interact with their attendants, dress themselves, access transportation, or other more specific barriers to vocational re-entry.

4) Raters can sometimes neglect to pick up the client's medical/emotional status, or how this may impact on their future vocational functioning.

5) Even with trained raters and well defined behaviors, there is always an interrater reliability concern in reporting. What one rater records may be inconsistent with what another rater may record.

6) Client behaviors during behavioral rating may be artificially positive or productive negative due to test anxiety (Hawthorne Effect).

7) Behavior rating scales can be used to help identify areas of "deficit work performance". However the rater, or one overseeing the rater, must not only record performance deficits with the behavior rating scale, but also determine if performance problems are related to subtle learning problems or an inadequate instruction method. Without a learning assessment consideration, a task might be mistakenly regarded as beyond the client's abilities.[3]

SUMMARY

Behavioral rating scales are a useful tool when coupled with standardized testing as part of vocational evaluation. It is useful as part of ongoing vocational services, allowing clinicians to monitor and evaluate treatment effectively. Generalization of treatment results to different environmental settings can be ascertained through the use of behavioral rating scales initially and over time.

While a cautious vocational evaluator considers the limitations of the behavioral rating scale use, many benefits can be identified through it's usage:

1) The vocational evaluator can glean measurable information from behavioral rating scales which help substantiate a client's vocational prognosis and provide indicators of the client's interests and temperaments.

2) Using the behavioral rating scale as a therapeutic tool for the client's interaction can support increasing the client's awareness of their own temperaments and areas of performance. Increased performance awareness can serve as a foundation for an individual rehabilitation plan and development of a career plan (career counseling) between the Vocational Specialist and the client served.

3) The use of behavioral rating scales can enhance the clinician and the client's ability to measure progress towards discharge outcomes as well as durability of discharge outcome goals.

4) The use of behavioral rating scales identifying a client's strengths can aid the Vocational Specialist in job development and placement. Rating scales can also be used as tools which can give needed information for job retention intervention and employer education.

ACKNOWLEDGEMENT

I would like to thank Susan M. Collins, M.Ed., C.R.C. for aiding me with the literature review for this white paper. I would also like to acknowledge her for the well developed employee/employer role-play, based on one of our favorite clients, Will L. Ms. Collins' role-play and the audience use/discussion of a behavior rating scale was a vital component of our presentation.

ENDNOTES

1) Observation And Client Evaluation In Workshops, A Guide And Manual, The Materials Development Center, The Department of Rehabilitation and Manpower Services, School of Education, The University of Wisconsin - Stout. Menomonie, Wisconsin. 54751, page 1.

2) Sax, A.B. and Pell, K.L. "A Primer Of Tools Of Evaluation". Vocational Evaluation And Work Adjustment Bulletin. Vol. 18, #2, 1985, page 57.

3) McCray, Paul. Learning Assessment In Vocational Evaluation, The Materials Development Center, Stout Vocational Rehabilitation Institute, University of Wisconsin - Stout. Menomonie, Wisconsin. 54751, 1979, page 5.

4) Matkin, R. and Rice, J. "Integrating Diagnostic And Behavioral Assessment Techniques". Vocational Evaluation And Work Adjustment Bulletin. Winter, Vol. 11, 1979, pages 18 through 23.

BIBLIOGRAPHY

1) McCray, Paul. Learning Assessment In Vocational Evaluation, The Materials Development Center, Stout Vocational Rehabilitation Institute, University of Wisconsin - Stout. Menomonie, Wisconsin. 54751, 1979, page 5.

2) Matkin, R. and Rice, J. "Integrating Diagnostic And Behavioral Assessment Techniques". Vocational Evaluation And Work Adjustment Bulletin. Winter, Vol. 11, 1979, pages 18 through 23.

3) Observation And Client Evaluation In Workshops, A Guide And Manual, The Materials Development Center, The Department of Rehabilitation and Manpower Services, School of Education, The University of Wisconsin - Stout. Menomonie, Wisconsin. 54751, page 1.

4) Power, Paul W. A Guide To Vocational Assessment. Pro-Ed, Inc., 1984, page 115.

5) Rusch, F.R. and Mithaug, D.E. Vocational Training For Mentally Retarded Persons: A Behavior Analytic Approach. Champaign, IL, Research Press, 1980.

6) Sax, A.B. and Pell, K.L. "A Primer Of Tools Of Evaluation". Vocational Evaluation And Work Adjustment Bulletin. Vol. 18, #2, 1985, page 57.

7) Walls, R.T. and Werner, T. "Vocational Behavior Checklists", Mental Retardation, August, Vol. 5 and 4, 1977.

Maureen McKenna, M.Ed., CRC, CVE
Comm Rehab Services of Annapolis
222 Severn Avenue
Annapolis, MD 21403

Critical Vocational Behaviors: A Conceptual Model for Vocational Evaluators

Dr. Thomas Modahl

Abstract

The Critical Vocational Behaviors model has been in existence for over 20 years. It was used as a guide for work adjusters to identify those behaviors that were critical in determining if a person was employable. Although a person may have unique behaviors, these behaviors may not interfere with employability. However during the 70's, many evaluators were labeling persons with a disability as unemployable on the basis of non-critical behaviors. During the late 70's, the supported employment movement demonstrated that many of these individuals were in fact employable. Because of these experiences, vocational evaluation was challenged in the 80's as being a questionable service for persons who were severely disabled. The reason for the screening out of many of these people may be due to a lack of a model to assure that evaluators consider only those behaviors that are critical to employment. Therefore the critical vocational behavior model is refined and presented as a guide to help vocational evaluators develop more relevant questions in their evaluation plans.

Vocational Evaluation has been in existence for over fifty years. During this time it has gone through growth and decline stages. The original intent was to develop tools that would determine the employability of those disabled individuals that were considered unemployable by the traditional systems. The Tenth Institute, in 1972, emphasized the importance of work, real or simulated, to be used as the focal point in assessment. Past experiences proved that the medium of work could be useful in determining that many "unemployables" were in fact employable. Although this new approach to vocational assessment was more successful, many people with disabilities were still being labeled unemployable. The reason for this dilemma was that evaluators were without a model that would help in giving guidance in determining what behaviors were important for success in the workplace.

During the 1960's, R. Walker (1969) developed the concept of "Pounce" which addressed the issue of critical vocational behaviors that needed to be addressed during the work adjustment process. He realized that many of the work adjustment clients had unemployable behaviors which needed to be modified to ensure employability. He coined the term critical vocational behaviors which means that the behavior had to interfere with employability in order to be considered critical.

Gordon Krantz (1971) expanded Walker's theories and outlined a specific model for work adjusters which includes the following characteristics:

1. The behaviors are critical, they each make a critical difference in whether the client will be employed.
2. They are vocational, they apply directly to adult occupations at levels from competitive employment to at least sheltered employment.
3. They are behaviors, they are actions of the client that can be seen and described, rather than constructs of what we think we see.

A list of critical behaviors that a person must have or be able to compensate for was developed. The areas of behavior are:

1. Job objective behaviors
2. Job getting behaviors
3. Job keeping behaviors
4. Critical employment coupled behaviors

Although this model was meant to be used as a guide for work adjusters, the vocational evaluator should use it during the initial steps of the evaluation process. The most important steps are review of referral information, initial interview, and preliminary testing. Questions are developed during these step which will be addressed in the evaluation plan. To insure the evaluator is addressing those behaviors that are critical for employability, the model is used as a guide to generate relevant evaluation questions which address only critical employment behaviors.

The model for vocational evaluation is:

JOB GOAL

A PERSON SHOULD BE ABLE TO STATE A VOCATIONAL GOAL

Consider:

1. Can person qualify for job now? Does he/she have necessary experience, training, education,skills, interests?
2. Does person have aptitudes and physical capacities for job?
3. If not presently qualified, can he/she be trained?
4. Are jobs available in local labor market?

JOB SEEKING SKILLS

A PERSON SHOULD HAVE INTERVIEWING SKILLS TO BE ABLE TO "SELL" ONESELF TO THE EMPLOYER

Consider:

1. Work history
2. Time since last job
3. Reason for leaving last job
4. Present skills/qualifications
5. Availability
6. Appearance/grooming/hygiene
7. Interview behavior
8. Motivation to work
9. Current job seeking efforts

JOB RETENTION

A PERSON SHOULD BE ABLE TO KEEP A JOB

Consider:

1. Absenteeism
2. Tardiness
3. Inability to get along with co-workers
4. Inability to get along with supervisors.
5. Quality of work
6. Quantity of work

CRITICAL EMPLOYMENT RELATED BEHAVIORS

Consider:

SOCIAL LIVING COMPETENCIES

1. Leisure time skills
2. Money management skills
3. Appropriate appearance/grooming/hygiene
4. Legal problems

COMMUNITY LIVING COMPETENCIES

1. Adequate housing
2. Adequate medical services
3. Adequate transportation
4. Guardianship

GENERAL AND PERSONAL LIVING COMPETENCIES

1. Family/marital relationships
2. Personal care/adjustment/stability
3. Medications

When using this model the evaluator should consider two factors, the severity of the disability and the type of job being considered.

Depending upon the severity of the disability, the model is used as a guide. However, in many situations the critical behavior may not be modified or changed but modifications may be needed to insure that the critical behavior will not interfere with employability. An example would be job seeking skills, the person may have severe problems in speaking therefore unable to interview and seek employment. In this case the evaluator would recommend direct placement services, not job leads/development services.

Depending upon the type of job, it should be remembered that a behavior is not considered critical if it isn't critical to that specific job. An example would be nose picking behavior, if the person was considering a job as a baker or bulldozer operator, the obvious would be that this is very critical to baker, but not bulldozer operator. Therefore it is very important to analyze each job to determine what behaviors are critical for employability.

Precaution should be taken when using a model. Too often the user will become ridged and forget to realize that the model is a guide to help in generating relevant questions on the evaluation plan. Even if a person has an unemployable behavior specific to a job, the evaluator must consider if the job or situation can be modified to insure employability. The purpose of Vocational Evaluation is to determine what a person can do vocationally and to recommend what services are needed to reach the goal.

References

Krantz, G. Critical vocational behaviors. Journal of Rehabilitation, 1971, 37 (4), 14-16.

Walker, R. "Pounce." In behavioral counseling: Cases and techniques, eds. J. Krumboltz, and C. Thorsesen. New York, Holtz, Rinehart and Winston. 1969.

Dr. Thomas Modahl
Professor
Department of Rehabilitation
University of Wisconsin-Stout
Menomonie, WI 54751

NATIONAL FORUM

TECHNOLOGY CONSIDERATIONS DURING THE VOCATIONAL EVALUATION PROCESS: FITTING THE PC COMPUTER TO THE USER

FRAN G. SMITH, ED.S, CVE
PAULA JACKSON McCLAIN

Abstract

Individuals are spending an increased amount of time at a computer within school and work environments. In recent legislation, the importance of providing rehabilitative technology and assistive devices has gained strength and momentum as an important direction for the future. The use of assistive technologies can help eliminate barriers that previously prevented success and open "windows of opportunity" to persons with more severe disabilities. Adapting the keyboard through a Disk Operating System (DOS) extension software program can open doors for a one-handed typist or mouthstick user. Using a wrist wrest can help a student with muscular dystrophy or rheumatoid arthritis access keyboard keys and facilitate increased work productivity. Additional placement of a keyguard can assist a person with hand tremors to more quickly access the target area of the keys. However, using assistive technology can sometimes be as simple as designing custom macros within an existing word processing program. With macros, a 3-4 step process can be reduced to 2 keystrokes, simplifying complex steps for a cognitively impaired individual. Assistive writing tools such as word prediction and abbreviation expansion can further enable these users to word process information at a faster pace, enhancing their competitive abilities.

Vocational evaluation and assessment personnel are often met with the challenge of evaluating individuals who have severe disabilities and whose vocational limitations are great. The majority of these individuals require rehabilitative technology and the use of assistive devices to maximize their vocational potential. However, due to the lack of available rehabilitative technology, devices and compensatory strategies; vocational evaluations provided to persons having severe disabilities are often neither accurate or relevant to their vocational goals. Such outcomes can lead to inappropriate vocational recommendations, inappropriate job placement, and sometimes the determination of "infeasible for services" rehabilitative status.

Until now, the utilization of technology within the vocational assessment process has been limited to computerized aptitude tests, occupational database resources and computer assisted report processing tools. However, considerations that determine how technology can enhance the functional capacity of individuals with disabilities have typically not been a part of the assessment process (Chubon, McGrew & Stewart, 1991). As a result, individuals with more severe disabilities have been screened out of vocational opportunities.

Rehabilitation technology is the use of compensatory strategies and adaptive equipment to maintain or improve functional capabilities of persons with disabilities. Compensatory strategies are defined as the restructuring of tasks, activities and the environment to compensate for the functional limitation experienced by an individual. These strategies do not necessarily involve products and equipment, but they may be used in conjunction with techniques to achieve a desired outcome. Technology includes not only equipment or "hardware" but also the information required to apply it effectively in fulfilling a purpose (Corthell, 1986).

The use and application of rehabilitation technology has emerged in recent pieces of legislation, addressing the needs and concerns of persons with disabilities. These laws suggest that persons having disabilities, especially of the more severe types, should be afforded accommodation by means of assistive technologies.

The importance of assistive technology is cited among several laws including: The Technology-Related Assistance for Persons with Disabilities Act of 1988, The Individuals with Disabilities Education Act (IDEA) of 1990, The Rehabilitation Act and The Americans with Disabilities Act (ADA) of 1990. Assistive technology is initially defined in the Tech Act with its beginning roots as a service. The primary purpose of the Tech Act is to assist states in developing comprehensive, consumer-responsive programs of technology-related assistance and to extend the availability of assistive technology to individuals with disabilities and their families (Nichcy, 1991) . As noted, the act defines the term "an assistive technology device is any item, piece of equipment, or product system, whether acquired commercially, off the shelf, modified or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities" (Technology-Related Assistance Act of 1988).

In the Individuals with Disabilities Education Act, continued reference is cited for inclusion of assistive technology as defined in the Tech Act. However the inclusion of and emphasis on rehabilitation technology in this legislation is emphasized as it impacts the successful transition services provided to youth and young adults with disabilities, as they move into the workplace (Individuals with Disabilities Education Act of 1990).

In the Rehabilitation Act, assistive technology is referenced as "where appropriate, the provision of rehabilitation engineering services to any individual with a handicap to assess and develop the individual's capacities to perform adequately in a work environment" (Rehabilitation Act Amended of 1992). This law introduces the assistance of rehabilitation engineering as an important component in the overall delivery of rehabilitative technology services. As defined, rehabilitation engineering is a systematic application of technologies, engineering methodologies, or scientific principles to meet the needs of and address the barriers confronted by individuals with handicaps in education, rehabilitation, employment, transportation, independent living and recreation".

More recently, the enactment of the American with Disabilities Act places an emphasis on assistive technology in the provision of reasonable accommodations for qualified applicants and employees in the public and private sector (Americans with Disabilities Act of 1990). As defined, "reasonable accommodation may include: a) making existing facilities used by employees readily accessible to and usable by individuals with disabilities; and b) job restructuring, part-time or modified work schedules, reassignment to a vacant position, acquisition or modification of equipment or devices, appropriate adjustment or modifications of examinations, training materials, or policies, the provision of qualified readers or interpreters, and other similar accommodations for individuals with disabilities". The implications for using assistive technologies here is with accommodation in performing the essential functions of the job, without lowering the overall quality or production standards.

There are many advantages to using assistive technology in the vocational evaluation and assessment process. As a service, the purpose of assessment is to identify the individual's vocational strengths and needs. Often assistive technology can further enhance the assessment process through accommodations, particularly for those with severe disabilities.

Through the "trial" use of assistive strategies and devices in the assessment process, a more accurate validation for their appropriateness can be made prior to needed restructuring of tasks; or the purchase of costly equipment. Applying the use of rehabilitation technology increases the capabilities of persons having disabilities, maximizing their overall potential and competitiveness.

Uses of assistive technology can range from referencing a resource, applying low or high tech devices or involving the assistance of a rehabilitation engineer. Some examples might include providing persons with low vision access to computers by using text magnification software, instructional visual aides for persons with hearing impairments, and visual prompts for persons with cognitive deficits. Nevertheless, integrating applications of assistive technology into the assessment process can allow for increased accuracy and results in more appropriate job placements and training recommendations.

The importance of using "tech points" prior to and during the evaluation have been suggested as a way to systematically utilize assistive technology applications (Langton, 1991). As noted, regardless of the level of technology sophistication on the part of the vocational evaluator, using the tech point approach insures that some level of assistance will be considered.

Hardware/Peripherals:

In the world of computer technology, consideration should be given to adaptive hardware and peripherals that are capable of enhancing the *functional* capacity of persons with disabilities. Computer hardware is defined as the basic components of the computer such as the central processing unit, monitor, keyboard, hard drive, diskette drives and mouse.

Recent attention to the ergonomic design of computer workstations has enhanced the overall accessible features of products for consumers. Moving from the 5 and 1/4 to 3 and 1/2 inch floppy diskette drive provides more independent access for the physically challenged user. Coupled with the use of a hard disk drive, programs and data files can be stored and accessed by a simple keystroke, represented by a menu selection.

The standard mouse provides an alternative form of keyboard input that allows cursor movement and access to software functions through pull-down menus. The mouse can be an invaluable tool to persons that have difficulty with the rapid or fine movements associated with keyboarding. Some computer software programs allow for time delay in mouse use. Other programs allow for the determination of how responsive the mouse pointer is to actual movement. These features can sometimes be useful to individuals who have motor disorders. For the left hand user, some software programs provide the option of reverse operations of the mouse buttons.

Peripherals are any adaptive devices that maximize the general output, input and access of the computer.

Peripheral technologies range from the simplistic to the very sophisticated, with varying price ranges. The *Wrist Rest,* sometimes referred to as Wrist Pad, is an adaptive peripheral for the keyboard (Dainoff & Dainoff,1992). The Wrist Rest is designed to prevent and reduce pressure to the median nerve located in the wrist area. The device fits under the computer keyboard and usually has a padded bar that allows the wrist and forearm to remain at a 45 degree angle when typing. The Wrist Rest is often associated with the reduction of typing fatigue. Wrist Rests are often recommended to persons who use a computer keyboard and have been diagnosed as having the hand and wrist disorder Carpal Tunnel Syndrome, which is caused by compression of the median nerve.

Another peripheral for the keyboard is a Moisture Guard. Moisture Guards are clear, flexible covers that protect the keyboard from dust, moisture and liquids. Moisture Guards are useful to persons that experience difficulty with retention of salvia.

A *Keyguard* is a template, made of plastic or metal, used to enhance keyboarding accuracy. Keyguards are keyboard overlays that have holes that expose and isolate each key (Hagen, 1992). When the device is placed on the keyboard, it limits the opportunity for striking unwanted keys. Keyguards have been beneficial in enhancing the keyboarding skills of persons who have sudden involuntary contractions of muscles, failure of muscle contractions, irregularity of muscle action and other motor disorders.

Alternative keyboards provide customized layouts and access methods. The *Dreamer* keyboard, marketed by T.S. Microtech, Inc. is designed to be used as an accompanying keyboard with specific software programs such as WordPerfect 5.1 or Lotus 123. Its a supplement to the standard keyboard. The Dreamer keys provide macros of over sixty functions used in the WordPerfect program (Lazzaro, 1992). Thus, pressing the preview *Dreamer* key quickly places the user into the view document mode of WordPerfect. The standard Shift and F7, 6 program steps have been reduced to one button namely, Preview. Dreamers allow the Control, Alternate and Shift keys to be used sequentially opposed to their normal simultaneous functioning. Additional software programs that can be used with the Dreamer are WordStar, MultiMate, and DisplayWrite. The Dreamer can enhance computer applications of individuals who have attention, cognitive, physical and memory deficits.

From Northgate there is the *Ultra-OmniKey* keyboard. This keyboard offers the same features as a standard 101 keyboard but provides adapted access directly from the keyboard (Northgate, 1991). Features include automatic key latching, repeat defeat control, interchangeable control, caps lock and alt key, and an automatic colon lock key. In total there are 116 keys that can be adapted for individual users.

Condensed keyboards are also included in the list of alternative input devices. A condensed keyboard such as the *Mini-Keyboard* from Datalux, is a smaller keyboard with a different arrangement of the keys as opposed to the standard keyboard (Datalux, 1992). Some condensed keyboards have slightly smaller keys.

Most often the condensed keyboards have all of the function keys found on the standard keyboard but are arranged in a more vertical versus horizontal arrangement. Condensed keyboards are very useful to persons that are one hand typist, persons who access the keyboard by way of a mouthstick or pointer, and persons having limited dexterity or range of motion.

Intellikeys, marketed by Intellitools,Inc. is a new alternate input device that opens many doors for the more severely disabled user (Intellitools, 1992). The Intellikeys keyboard is a membrane sensitive keyboard that can be plugged directly into the computer keyboard port. The device has six changeable overlays from which to choose: arrows, alphabet, numbers, basic writing, standard IBM and standard Apple. Intellikeys are large keys that are easy to touch, see and understand. It is designed to work with preexisting computers and software including the IBM AT, XT, PS/1, PS/2, compatible and Apple/ Macintosh models. Intellikeys are often used to enhance the computer skills of persons with physical, visual and cognitive disabilities.

Persons who are blind or visually impaired can take advantage of the numerous screen reading and screen magnification programs. A device known as a speech synthesizer can be attached through the communications port of the computer to provide speech output of existing on-screen text. More recent screen reading programs such as GW Micro's Vocal-Eyes are bundling internal sound boards that also provide speech synthesis (Lazzaro, 1992).

Software Solutions

Improvements in software user friendliness have been increasing for the average user. Enhancements such as applications running in a graphical user interface environment, popular with Windows and Macintosh programs, provide on-screen access features. Picture icons represent programs and can easily place the user into the program with only a point and click of the mouse. For many users this takes the work out of remembering abstract and complicated commands of the typical Disk Operating System (DOS). Likewise this approach simplifies steps for some individuals with disabilities who have memory or cognitive deficits.

Assistive writing programs have become popular tools for the average word processing user. These programs help to enhance keyboarding time and expedite the production of materials. Assistive writing tools fall into three categories: macros, abbreviation expansion and word prediction.

Macros are commonly used phrases or character sequences that are "stored" in a software program. When needed, these are accessed by specific keys combinations or key depressions. Many software programs have this feature available for the user to pre-program desired functions that are frequently used.

Abbreviation expansion programs use abbreviations of frequently used words and phrases, names and addresses, boilerplate text and programming language. While residing in resident memory, these abbreviations act as a computer shorthand program, working in conjunction with a word processing program. For example by typing an abbreviation such as acon, followed by the space bar will result in automatic typing of "according to the conversation of" (Curtis & Higgins, 1992). Thus for the physically challenged user, the usual thirty-two keystrokes have been reduced to five.

Word prediction programs, such as ***Mindreader*** from Brown Bag Software, provide on-screen assistance with available word selections. Commonly used phrases, sentences and paragraphs are stored in a glossary and then accessed by specific keys. Thus, as the user types the letter t, a menu of 5 word choices are presented on screen such as ;-today, 2-tomorrow, 3-the, etc. By choosing the number 2, the word tomorrow is automatically inserted in the desired location of the text. Similarly, using the semi-colon key would type the word today (Hagen, 1992). These programs attempt to anticipate the word being entered as it is keyed, offering word selections for the writer to select.

Physically challenged PC computer users can obtain free assistance through a program from IBM known as *Access DOS.* As a software utility program, Access DOS offers features such as sticky keys, slow keys, bounce keys, repeat keys and mouse keys which collectively customize the keyboard for a one-handed, blind, or motorically impaired user (Borden, 1991).

While running in resident memory from the "background", Access DOS can interface through many popular programs such as WordPerfect, Microsoft Works and DBASE. Thus, a one-handed typist can turn on the sticky keys feature and "reach" both the Shift and F7 keys at the same time to activate the print menu in WordPerfect. With sticky keys, a key latching technique is employed, enabling keys to be typed sequentially instead of simultaneously.

Through the repeat defeat key feature, one key depression results in one character, turning off repeating characters if the key is depressed too long. When using mouse keys, the numeric keypad is turned into a fully functioning mouse. Keys on the keypad are used to direct the cursor around the screen and the number 5 becomes the click button. These features can be very advantageous for a one-handed typist.

For an alternative to the standard keyboard, their are many on-screen keyboards that can be accessed by switch users. *EZ Scan,* which also runs in resident memory, can be accessed through a program like WordPerfect. When activated, the EZ Scan screen will appear in the center of the WordPerfect screen and provide access to alphabetic, numeric, and function keys for switch activated writing (Bentley, 1988). Keys are presented in rows and highlighted sequentially on screen. When the preferred row of keys are highlighted, the user can switch their input device and a selection will be made on screen.

Individuals with visual impairments can benefit from the use of screen reading, screen magnification and large print programs (Lazzaro, 1992). *Zoomtext,* from Ai Squared, provides magnification up to 16 times the normal character size (Hagen, 1992). This program also runs in resident memory and is accessible through most software programs. Adjusting the font size through many Windows and MacIntosh wordprocessing programs can also provide on-screen enlargement of text.

Applications for the Workplace

Technology in the workplace can involve a myriad of tools and services that extend beyond the use of just software and hardware. Customizing the work station can offer creative solutions to otherwise unsolvable problems. The following examples demonstrate how an accommodation was made by customizing existing technologies.

In an office of several evaluators, all but one was using a computerized report writing system. The one evaluator not using the computer generated report had to rely on clerical staff to type her reports written in long hand in a similar format. It was noted that the evaluator was not opposed to using the computer generated report, but found it difficult because she was visually impaired. Having the clerical staff type the report was an acceptable accommodation, however, the evaluator lost some of her autonomy and writing flexibility. The evaluator indicated to her co-workers how she wished that she could gain control of her reports and produce them on the computer the way that her co-workers were able to do. The co-worker being knowledgeable of software down loading and WordPerfect macros decided to develop a solution.

The evaluator was already learning how to use WordPerfect. She used WordPerfect in conjunction with the Zoomtext program. However, the evaluator found it very difficult to use the report writing and text magnification programs together. Since the evaluator was showing great progress using WordPerfect and Zoomtext together, the co-worker thought that the solution should began by saving the report writing format as an ASCII (DOS) file, which could easily be retrieved into the WordPerfect program using the retrieve DOS text command.

After retrieving the file, correcting mistakes, taking out unwanted spaces and return codes; the co-worker saved the report format as a WordPerfect file. The co-worker then used macros to make moving around in the document easier for the evaluator. The macros were used to highlight headings and subject areas, combining the block command and the macro pause command. This was important to ensure that the evaluator would know what section or topic she was to report on in that area (ie; who is to be sent the report and the type of transportation used). When accessed the macro would move the cursor to where the evaluator was to enter text. The macro eliminated the evaluator having to execute tabs, indents, and return commands. This also increased ease in using this format. The macro also included automatic text insertion of standard information (ie; date of the report, using the date insertion command, the evaluators name and title at the end of the report, and the signature line).

When the completed project was presented to the evaluator, she was elated. She quickly began using the program. After a couple of reports, she began using the format with ease. She said she felt good about her new found control over her report writing and the sense of autonomy it restored to her work activities.

A similar application was developed for a client who is quadriplegic. The client had no motor movement below the neck. He operated his wheelchair by means of a sip and puff device. When he arrived at the evaluation center the client told the evaluator that he wanted to use the computer. The evaluator, using several software programs and making a few adjustments to the keyboard placement, was able to devise a work station suitable for the client to access the computer keyboard. The software programs that were used were WordPerfect; Typing Tutor a typing tutorial; and Access Dos.

A standard keyboard was used and placed on top of a hospital table with a base that went under the client's wheelchair. The height of the table was adjusted to meet the client's needs. A mail tray was placed in its inverted position, used to support the keyboard. The keyboard was placed so that the keys vertically faced the client.

The client was able to access the keyboard using his mouthstick. At the end of the seven day evaluation process, the client was able to work in forty minute sessions with five minute breaks in between. He was able to work for a total of six hours a day. The client was typing at 16 words per minute with ninety-seven percent accuracy.

Conclusions

The advantages of using assistive technology are numerous but there can be some disadvantages. If funding is not available to support the purchase of equipment for continued use, usage in the evaluation process may establish a false sense of competence. With software however, a solution may exist in requesting demonstration copies of the program, which often provide up to an hour of operating time. This can offer ample time to determine if the tool will be a useful accommodation for the individual.

In making recommendations, it is important to be aware of the cost-benefit ratio that will result from using the assistive technology. (Chubon, McGrew & Stewart, 1991). Solutions range in complexity, sophistication and cost. Customizing an existing word processing program with macros only requires the time of the evaluator; as opposed to purchasing a $6000.00 screen reading program.

Regardless of the dilemmas, assistive technology is a service that is here to stay. As Chubon, McGrew and Stewart note, "assistive technology and technology assessment may be the rehabilitation buzz words of the 90's". Vocational evaluation personnél need to update their technological skills and prepare to take advantage of this exciting trend of the future.

References

Americans with Disabilities Act of 1990, 42 U.S.C. Sec 12101 et seq. (1990)

Bentley, D. (1988). Regenesis EZScan Software Manual. North Vancouver, British Columbia, Canada: Neil Squire Foundation.

Borden, P.A. (1991). Access DOS User's Guide. Madison, WI: The Trace Research and Development Center.

Chubon, R.A., McGrew, G.W., & Stewart, W.W. (1991). The Implications of Technology for Vocational Assessment. *Rehabilitation Education*, 5,253-260.

Corthell, D. (1986). Rehabilitation Technology: The Game and Players. Menomonie, WI: Stout Vocational Rehabilitation Institute.

Curtis, A. & Higgins, E.L. (1992). Assistive Technology for Persons with Learning Disabilities. Paper presented at the meeting of the National Rehabilitation Association, San Diego, CA.

Dainoff, M. & Dainoff, M. (1992). Guerilla Ergonomics. *WordPerfect Magazine*, May, 43-45.

Datalux (1992). Space Saver Keyboard Owner's Manual. Winchester, VA

Hagen, B. (1992). Closing the Gap 92 Resource Directory, 6(10), Feb-Mar, Henderson, MN: Closing the Gap.

Individuals with Disabilities Education Act of 1990, Sec.101 (8),20 U.S.C. Sec 1401(a) Supp. II (1990)

Langton, A.J. (1991). Making More Effective Use of Assistive Technology in the Vocational Evaluation Process. In R. Fry (Ed.) The Issues Papers: Fifth National Forum on Issues in Vocational Assessment. (pp. 63-68). Menomonie, WI: Materials Development Center, University of Wisconsin-Stout.

Lazzaro, J.J. (1992). Physically Challenged: How to Benefit from Adaptive PC Technology. *The WordPerfect Magazine*, August, 81-84.

Northgate, (1991). OmniKey User's Guide. Minneapolis, MN.

Rehabilitation Act Amended of 1992.

Staff (1991). The Education of Children and Youth with Special Needs: What Do the Laws Say?. *NICHCY News Digest,* 1(1),9.

Technology-Related Assistance for Individuals with Disabilities Act of 1988.

Unicorn Engineering, (1992). Intellikeys Owner's Guide. Richmond, CA.

Authors

Fran Smith is currently employed as a Vocational Technology Specialist in the Department of Student Services and Special Education, Fairfax County Public Schools.

Paula McClain is currently employed as a Vocational Rehabilitation Specialist with the District of Columbia Rehabilitation Services Administration. Since September, 1992 she has also worked as a graduate intern in providing technology services for Fairfax County Public Schools.

Assessing Needs, Supports, and Environments in Vocational Evaluation

Richard Sabousky, Robert W. Flexer, Doreen Shell

ABSTRACT

This paper addresses the role of vocational evaluators in ecological, functional assessment in supported employment. A collaborative support model is presented along with potential strategies for Supports Based Assessment. Limitations and precautions are presented to make the reader aware of validity issues from the perspectives of consumers and employers.

INTRODUCTION

The nature of supported employment, its focus on on-going supports, integration at the work site and targeting persons with severe disabilities present new challenges to rehabilitation. Providing for best fit between employment settings and potential employees (consumers) will require interactive systems that identify the particular dynamics of the available job placements and those supports required for consumer success. Kielhofner (1993) identifies the need to "create a methodology of functional assessment that allows construction of a particular appreciation of the circumstances of the person assessed (i.e. his or her particular abilities, needs, desires, and aspirations) and of the environment in which the person is functioning" (p.250).

To draw assessment activities into a more interactive mode, vocational evaluators may need to shift their focus toward specific environments for program planning and intervention. According to Menchetti and Flynn (1990), "In addition to assessing the behavioral requirements of an employment setting, it is important to assess the ecological dimensions associated with successful and unsuccessful placements"(p.124). Ecological dimensions requiring assessment, according to Pancsofar (1986), would include, "individual, physical environment, culture, and significant others "(p.94). Therefore, the goals and content of ecological and functional vocational assessment should include the following:

1. Appreciation of the consumer assessed
2. Provision for a system of consumer directed and determined career planning
3. Assessments that parallel functioning in actual work environments
4. Focus on assessments promoting attainment of success and a quality work life,
5. The identification of supports from a variety of sources.

The purpose of this paper is to provide a framework for the ecological assessment of supports in work settings. Highlighted are practical implications in providing a comprehensive assessment of the balance between consumer needs and types and sources of supports. Supports are informational, material, or social resources which are brought to bear in the interaction and fit between specific individuals and environmental demands and characteristics. Sample support assessment strategies are provided to illustrate the integral aspects of assessment, performance, and intervention as they function within the total environment.

BEST COPY AVAILABLE

AN ECOLOGICAL PERSPECTIVE IN VOCATIONAL EVALUATION

Implementation of a interactive approach with regard to evaluation should have an ecological basis. According to Brown and Snell (1993), "Ecological inventories are informal assessments that require teachers to consider areas of instruction arranged by what Lou Brown and his colleagues (1979) refer to as 'domains of adult functioning' or skill categories" (p.74). Ecological approaches focus on a specific task or tasks in the identified environment, the degree of success required, and the development of rehabilitation goals and interventions that promote congruence between the consumer's behaviors and the identified goals (Rusch, 1986; Powell et al, 1991; Wehman et al, 1985).

Typically, in the job development process, job analyses are completed of available job-sites. From these job analyses, tasks can be identified and broken down into smaller observable steps (task analysis). Subsequently, an assessment of the match between the prospective employee skills and the job requirements is done. Goals and objectives required for achieving success are incorporated into a placement or individual plan. Following a similar approach, the goals targeted in the plan are selected from the perspective of client deficits in specific job skills.

Procedures for successful achievement of goals for clients being placed include a variety of strategies, from applied behavior analysis to the modeling of a job coach. However, the restrictiveness of the procedures, and the source of the procedures may place undue limits and burdens upon the consumer and others involved in intervention. As Alberto and Troutman (1990) have indicated, "Behaviors that extinguish rapidly when artificial contingencies used to develop them are withdrawn can hardly be considered learned in any meaningful sense" (p.358). Therefore, the maintenance of unnatural or contrived contingencies promote consumer dependence.

Powell et al (1991) indicated an awareness of problems of dependence:

> A mechanism needs to be established to monitor the number and intensity of supports that are offered by an agency to a worker in supported employment. The activities within each support should at least be analyzed on a monthly basis for a decision about whether to cease, continue, or change the activities as they assist the worker to maintain employment. (p.103)

An expanded view of ecological analysis would involve an assessment of the supports required, and includes employer and personal networks as potential sources for provision of those supports. The identification of supports and sources of supports can provide a wider frame of reference for program planning and intervention. Development of mechanisms other than rehabilitation supports (specialized individual assistance provided by rehabilitation professionals) are both possible, desirable and a responsibility that fits within the vocational evaluators job description.

COLLABORATIVE SUPPORT PROVISION

A collaborative evaluation of supports is critical in order to examine and to provide an appreciation for the consumer assessed, to provide a system of client directed and determined career planning and job placement, and to have assessments that parallel job functioning. This would require a shared perspective between the consumer, employers and others as to what supports are needed for consumer success and where they can be accessed. A Collaborative Support Model to Supported Employment has been provided to detail a functional approach to balancing supports in work environments (Flexer et. al).

The overall thrust of the model illustrates how supports can be obtained from consumer, employer, and rehabilitation sources (See Figure 1). The model emphasizes how all three component networks have an equal potential in provision of supports and that support provision can be defined as a collective or collaborative process. The assessment (ecological analysis) and outcome (congruency) results from a dual and interactive view of needs in relation to available supports.

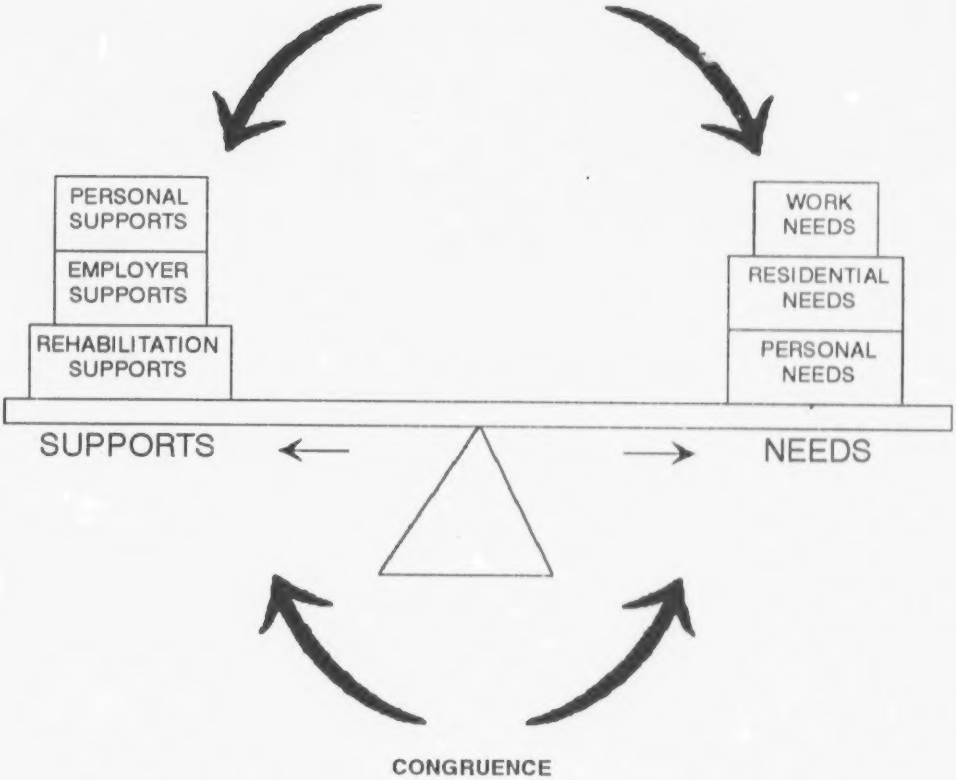
Consumers, along with their social network bring many mechanisms that could be used as supports in the employment setting. Such supports could include: transportation, self-advocacy, family follow-up, or even employment opportunities (Powell et al 1991).

Employers also can provide a variety of supports. Employers have available a menu of supports that can be utilized for promoting the notion of best fit in job-sites available to all employees. Nisbet (1992) has identified the following:

> The first was supervision. Among other responsibilities, supervisors answered questions, solved problems that their employees were unable to solve independently, provided reminders to employees, rescheduled or reassigned work to accommodate individuals, and praised or reprimanded employees for their job performance. The second company sponsored support was pairing a new worker with an experienced worker for training.(p.231)

According to Baumgart and Askvig (1992) other employer provided supports could include, "daycare programs, personnel services, company transportation, and employee counseling" (p.346).

Figure I
Ecological model of rehabilitation supports



Rehabilitation supports include all those mechanisms provided by professionals or paraprofessionals in promoting consumer success. Rehabilitation supports constitute extensions of supports provided by the employer or supports not typically available, specialized and appropriate to meet unique needs.

SUPPORTS BASED ASSESSMENT

Supports Based Assessment is a process of identifying needs and assessing appropriate, individual supports available. Supports Based Assessment (SBA) can be accomplished in such a fashion as to provide for a measure of the possible facilitative nature of supports. An increased awareness on the part of the vocational evaluator of supports for consumers and their sources allows the evaluators to become more proactive in the job development process.

Vocational evaluators are adept at identifying the needs that specific consumers may have in relation to work environments either in general or specific to the particular requirements of specific jobs. We are proposing that the next logical step (supports assessment) should be in the repertoire of evaluators.

In order to facilitate the identification of available supports, an advanced organizer could be used. The organizer (see Figure 2) would indicate consumer work needs, if supports are required for those needs, and the sources of those required supports. The sources of support could include the following headings; social network, employer/employees, professional.

An example of work needs areas could be those items from the Virginia Commonwealth job matching form e.g., schedule, travel, work rate and so on. During this process supports may be identified from more than one source. In order to keep with the notion of facilitating the best quality service for consumers, careful consideration must be given as to what source the support will be derived from.

Once consumer needs have been identified, a listing of resources that the consumer has available should be identified. This can be accomplished by interview with structure coming from the consumer's needs list. At this time, it would be appropriate to apply the concept of collaboration by surveying employers for lists of supports that may be available to all employees such as those found in employee assistance programs and others (significant individuals in the consumer's social network) found in the consumer's environment. The results of the above investigations can now be added to the arsenal of rehabilitation supports.

The mechanisms provided by the identified sources of supports (consumer and their social network, employer/employees, and rehabilitation) have one common element, the facilitation of the consumer. The difficulty lies in using the supports as Luckasson has put it, "to advance and enrich successful integration" (In press).

Employer provided supports although environmentally correct may be contrived. A co-worker may provide positive feedback to the consumer on a fixed schedule. This may provide the required reinforcement for consumer success and promote generalization of the task much more effectively than a professionally provided program of applied behavior analysis. According to O'Brien (1992), " The key staff function is discovering and orchestrating the capacity of the people in and around the job situation" (p.1).

In order to examine this coordination, a proportion of social network, employer and employee provided supports to the consumer's total number of required supports could be established. A particular consumer may have the following identified needs: a specific reinforcement schedule, transportation, sequencing of job duties (task analysis) and employee orientation. These needs and corresponding supports could be reflected by the advanced organizer in the following fashion: the specific reinforcement schedule is implemented by an employee; the transportation needs could be met through the consumer's social network; sequencing of the specific job duties could be completed by a professional yielding a task analysis; an orientation of the consumer to the job-site could be accomplished by the employer.

The value of the organizer would be in tracking how required supports are provided, reflecting shifts in type, source, and intensity of social network, employer/employee, and rehabilitation supports. Initial and changing patterns in entries could be used as a monitoring tool for support facilitation and as a criterion reference point for the consumer. By describing fading of supports and changes in support provision over time, program decisions and goals that are related to the nature of an individual's supports could be made on an individual basis and provide criterion reference points to track program effectiveness. This would perhaps provide for the assessment "mechanism" called for by Powell et al (1991).

DISCUSSION

There are a number of cautions that need to be addressed if such a system is implemented. The first of these involves the consumer's reaction to the source of supports. For example, some consumers may have no problem in having a parent provide transportation for them while others may find this highly offensive. The satisfaction of the consumer must be taken into account.

The second caution would involve the satisfaction of the employer with regard to the quality of the work being done. For example, a more natural support could be substituted for a professionally provided support such as employee provided reinforcement in the place of a professionally provided program of applied

Figure 2
ADVANCED ORGANIZER FOR
ECOLOGICAL SUPPORT/ASSESSMENT

WORK NEEDS	SUPPORT NEEDS	SOCIAL NETWORK	EMPLOYER EMPLOYEE	PROFESSIONAL
Schedule				
Travel Location				
Initiation of Work/Motivation				
Strength: Lifting and Carrying				
Endurance				
Orienting				
Physical Mobility				
Work Rate				
Appearance				
Communication				
Appropriate Social Interactions				
Acceptable Behavior				
Attention to Task/ Perseverence				
Sequencing of Job Duties (Task Analysis)				
Daily Changes in Routine				
Reinforcement Available				
Employer Orientation				
Object Discrimination				
Time				
Functional Reading				
Functional Math				
Other				

behavior analysis. This may manifest itself in a decrease in productivity. This is an unacceptable situation because although more natural in orientation, the consumer may lose the position.

The third caution is in remembering the notion that criterion referenced assessments, or in this case only derived supports measure is used as a bench mark for the individual. The progress in rehabilitation and employment success is defined in terms of the specific individual. The advanced organizer for sources of support, SBA, and a method to more clearly define satisfaction issues will continue to be the topic of refinement in this system of an ecological analysis of support mechanisms and their application to consumer success.

REFERENCES

Alberto, P.A., and Troutman, A.C. (1990). Applied behavior analysis for teachers. Columbus, OH: Merrill/Macmillan.

Baumgart, D. and Askvig, B. (1992). Job-related social skills interventions: Suggestions from managers and employees. Education and Training in Mental Retardation, 27 (4), 345-353.

Flexer, R., Goebel, G., Baer, R., Simmons, T., Martonyi, E., Piunno, D., Steele, R., Sabousky, R. (Submitted for publication). Participant, Employer, and Rehabilitation Resources in Supported Employment: A Collaborative Support Approach.

Kielhofner, G. (1993). The issue is functional assessment: Toward a dialectic view of person-environment relations. The American Journal of Occupational Therapy, 47(3), 248-251.

Luckasson, R., Coutter, D.L., Polloway, E.A., Reiss, S., Schalock, R.L., Snell, M.E.,Spitalnik, D.M., and Stark, J.A. (In press).Mental retardation: Definition, classification,and systems of supports (9th ed.). Washington, DC: American Association on Mental Retardation.

Moon, S., Goodall, P., Barcus, M., and Brook, V., (1986) The Supported Work Model of Competitive Employment for Citizens with Severe Handicaps: A Guide for Job Trainers.

Nisbet, J. (1992). Natural supports in school, at work, and in the community for people with severe disabilities. Baltimore: Paul H.Brookes.

O'Brien, J. (1992). Learning to expand the social resources available to people with severe Disabilities at Work. TASH Newsletter Vol. (18) Issue 7.

Panscofar, E.L. (1986). Assessing work behavior. In F. Rusch (Ed.), Competitive employment issues and strategies (pp. 93-102). Baltimore: Paul H. Brookes.

Powell, T.H., Pancsofar, E.L., Steere, D.E.,Butterworth, J., Itskowitz, J.S., and Rainforth, B. (1991). Supported employment: Providing integrated employment opportunities for persons with disabilities. New York: Longman.

Rusch, F.R. (Ed.), (1986). Competitive employment: Issues and strategies. Baltimore, MD: Brookes.

Snell, M.E. (1993). Meaningful assessment. In M.E. Snell (Ed.), Instruction of Students with severe disabilities (4th ed) (pp. 61-93). New York, New York: Merrill/MacMillan.

Wehman, P., Renzglia, A., and Bates, P. (1985). Functional living skills for moderately and severely handicapped individuals. Austin, TX: Pro Ed.

Robert Flexer
316 White Hall
Kent State University
Kent, OH 44242-0001

The Work Adjustment Job Coach Service

Elizabeth A. Davis
Carroll Sue Barron

Abstract

As a result of the lack of effective services for people who needed short term job instruction but were not eligible for Supported Employment, North Carolina Vocational Rehabilitation developed the Work Adjustment Job Coach Service. In July, 1991 N.C. Division of Rehabilitation Services and Community Rehabilitation Programs (CRP) expanded Work Adjustment services to include WA Job Coaching. This has been implemented in 51 out of 53 CRP's. WA Job Coaching is a service of Work Adjustment like counseling and is not a separate program. The WA Job Coach position was designed to directly assist CRP Work Adjustment clients to successfully transition into community employment who did not need long term support. Clients receiving WA Job Coaching are considered to be in training rather than having employment status. Clients are considered employed when WA Job Coaching and/or other WA services appear unnecessary for the retention of successful employment. When the client reaches this level of performance, WA services will be terminated. This determination is based upon such factors as an established employment position, gratification of employee with the job, satisfaction of the employer with the job coached employee, an admissible degree of independent functioning, acceptable association with supervisor and coworkers, and the presumption of employment maintenance. CRP staff provide follow-up contact with clients receiving these services, in the same manner they do for other discharged clients, as well as a follow up of employer satisfaction. Should complications develop and additional WA Job Coaching or other services appear to be in order, the client may re-enter the Work Adjustment Program. Throughout North Carolina, 446 clients were WA Job Coached from July 1991 to July 1992. Of the 446 clients who were WA Job Coached in the first year, 61% remained competitively employed for 60 days. However, averaging over a three year period from 1988 to 1992, only 37% of clients receiving traditional Work Adjustment services remained competitively employed for 60 days. The WA Job Coach service appears to be quite successful for competitive employment of those clients who often are denied appropriate services simply because the services are not available.

For a number of years Vocational Rehabilitation Counselors noted a link missing in services offered: It lacked the ability to adequately serve a population that did not qualify for supported Employment and did not require long term support on the job, but did need short term instruction and support on actual job. The result of this need is Work Adjustment (WA) Job Coaching.

In July, 1991, North Carolina Division of Rehabilitation Services and Community Rehabilitation Program (CRP), formally known as facilities, expanded Work Adjustment services to include WA Job Coaching. This has been implemented in 51 out of 53 state CRP's. WA Job Coaching is not to be confused with traditional Work Adjustment program offerings: counseling, training/instruction, and conditioning. It is a component of WA services, not a separate program. Supported Employment is a separate program. Job coaching is based on a place train model with which a client is taught a job on an actual job site. As a facet of Work Adjustment, WA Job Coaching is to be considered a training method rather than employment.

Since the program began, there has been great confusion between Work Adjustment Job Coaching and Supported Employment. WAJC offers time limited training, usually no more than twenty days. This may be extended by the VR Counselor if necessary. (The average number of days clients needed to be WAJC was 5.2 days based on first year figures). North Carolina Supported Employment Job Coaching can last up to 250 contact hours, and provides continuous on-going training and support. The critical period in supported Employment training is client stabilization. The critical period for WAJC is the fading process. Fading should begin when the client is performing independently one or more job assignment to meet or exceed company quality and standards.

The WA Job Coach position was designed to directly assist CRP Work Adjustment clients to successfully transition into community employment. The Work Adjustment Coordinator supervises this position ideally; however, the job coach works independently to develop community employment situations for clients deemed appropriate for this service.

The responsibilities of the WA Job Coach include, but are not limited to:

1. Engage in the development of community employment situations for clients.
2. Perform the client's acutal job duties as necessary while providing direct training to the client on the job.
3. Teach job responsibilities, job retention skills and appropriate social skills for relationships with co-workers and supervisors.
4. Transfer job activities to the client in a systematic manner and at a pace appropriate to the client to reach independent job functioning

BEST COPY AVAILABLE

and allow the trainer to direct concentration toward other clients needing intensive job coach services.

5. Provide intermittent, short term retraining as necessary.

6. Function as liaison between employer and client, and maintains ongoing communication with Vocational Rehabilitation and, as appropriate, clients' family.

7. Work as a team member to define and meet the clients' needs and goals.

8. Provide client and employer with follow up.

9. Make or arrange job site modifications where necessary.

10. Maintain required records on a current basis.

11. Attend staff meetings as requested in order to provide client progress reports.

12. Act as a professional advocate for persons with disabilities.

13. Assure compliance with applicable policies, procedures and standards.

Job development must take place in order for job coaching to occur. Counseling, guidance and job development continue to be the VR Counselor's responsibility. The WA Job Coach and other Work Adjustment staff are involved in job development, but the counselor is expected to remain heavily involved in the matching of VR client to job.

The consideration for Job Coaching in Work Adjustment is based upon the severity of disability, need, and likelihood of benefit in terms of client employability. To be considered the client does not need to be involved in other Work Adjustment services. VR clients who could benefit from these services, but no other CRP services may be enrolled in the Work Adjustment program for the express purpose of acquiring WA Job Coaching at community job site, without receiving other CRP services. Clients who are presently receiving WA services are routinely assessed to determing the appropriateness of WA Job Coaching.

Clients receiving WA Job Coaching are considered to be in training rather than having employment status. Clients are considered employed when WA Job Coaching and/or other WA services appear unnecessary for the retention of successful employment. When they reach this level of performance, WA services will be terminated. This determination is made through such factors as "permanent employment situation, employee and employer satisfaction, and acceptable level of independent functioning, satisfactory relationship with supervisor and coworkers and the expectation of employment retention". The CRP is required by standards to make a follow up contact. CRP staff provide follow-up contact with clients receiving these services, in the same manner as they do for other discharged clients. Should complications develop and additional WA Job Coaching services appear to be in order, the client may re-enter the Work Adjustment Program.

Certain documentation is required in the CRP's clients file that has been WA Job Coached:

1. Progress notes/staffing notes should describe how the VR Counselor, Client, Work Adustment Cooridinator, Evaluator, and WA Job Coach were involved in the decision to provide that service.

2. A new or amended Client Information Form (authorization form to begin or terminate services) which authorizes WA Job Coaching services.

3. The initial or an amended Individual Written Adjustment Plan (goal plan) should reflect a need for and implementation of WA Job Coaching services.

4. Written evidence as to how the job match was made.

5. Written evidence that the counselor was notified as to when the placement and coaching started.

6. Documentation that the client and the employer were satisfied with the job.

7. Documentation of when the client become a full fledged employee and WA Job Coaching services are terminated.

8. Follow-up documentation.

Throughout North Carolina, 446 clients received WA Job Coaching services from July, 1991 to June, 1992. Of the 446 clients who received this service in the first year, 61% remained competitively employed for sixty days or longer which is considered a successful placement. The success rate is much greater for clients receiving WA Job Coaching than for clients not receiving this service. From 1988 to 1992, only 37% of clients receiving traditional WA services remained competitively employed for sixty days. Thus reflecting a 67% greater success rate for job retention.

At this time, statistics are only available for one year. However, present results are dramatic. Further research should include determining: the number of people that received WA Job Coaching services who had to re-enter the CRP for more training after WA Coaching services had been completed; the number of people who had multiple CRP admissions prior to obtaining successful employment with the aid of WA Job Coaching services; and the number of people that needed the WAJC to return to the work site for further training.

Statistically, the outcome of this service has been outstanding. VR Counselors are highly in favor of this service. Clients receiving this service has also reacted favorably as it can reduce the stigma of entering a CRP, enhances employability, and provides many with first time vocational opportunities.

References

Conner, Neb. (1992). Memorandum: Work Adjustment Job Coach. Asheville, NC: Western Regional Office, North Carolina Department of Human Resources, Division of Vocational Rehabilitation Services.

Conner, Neb. (1992). Memorandum: Work Adjust-Job Coach Materials. Asheville, NC: Western Regional Office, North Carolina Department of Human Resources, Division of Vocational Rehabilitation Services.

Whisenhunt, Andy. (1992). Official document not available at this time. Information gathered from the office of Andy Whisenhunt, Chief of Program Support Services. Raleigh, NC: Department of Human Resources, Divssion of Vocational Rehabilitation Services.

Elizabeth A. Davis
Henderson County Sheltered Workshop
P.O. box 986
Hendersonville, NC 28793

Modifying the Evaluation Process to Determine Reasonable Accommodations

James F. Parhamovich, M.S., CVE, CRC

ABSTRACT

The American's with Disabilities Act now requires employers to make reasonable accommodations for their employees with disabilities. Many of these accommodations are relatively simple to make and to implement. Quite often they have little or no adverse impact on the worksite or to the employer. During the vocational evaluation process, Vocational Evaluators often modify standardized assessments to determine a client's learning style, work capacity, work speed, and vocational potential. Now these modifications to standardized assessments can be utilized to determine reasonable accommodations for individuals with disabilities. The Vocational Evaluator and the vocational evaluation process can and should be utilized in determining reasonable accommodations for individuals with disabilities. This presentation will describe simple low tech modifications that can be made during the evaluation process to aid in determining reasonable accommodations.

The Vocational Evaluator can make many simple low tech modifications to the evaluation process to aid in determining reasonable accommodations. These modifications often may effect the standardized administration of many work samples. However, by making these modifications, Vocational Evaluators may be able to determine if the client can actually perform the occupation with the modification or adaptation. In addition, these modifications can make working at the job easier for the client.

One of the first modifications to the evaluation process that the evaluator can make is to observe the client when the client enters the evaluation unit or testing area. The evaluator can observe the client to determine if the client can open the door to the testing area. Evaluators should know the amount of force required to open doors in their testing units or evaluation areas. Many clients may need the force required to open or close doors reduced to access a work environment. Clients that require mobility aids, such as wheelchairs, canes or walkers, may require force reductions or modifications in door width. The evaluator should also observe the client or assess the client on operating a variety of door knobs. Many facilities are equipped with polished, stainless steel door hardware. This hardware may be difficult for the client with limited grip strength or reach to operate. Simple lever handles can be added to these doors to aid the client in opening and closing the doors.

Mobility within the evaluation unit should also be assessed during the evaluation process. The evaluator may wish to observe the client with mobility aids, such as canes, walkers, or wheelchairs to determine how the client maneuvers through the unit or through narrow spaces. In addition, individuals in wheelchairs will require restroom facilities that are accessible. The evaluator should observe the client to determine whether the client can enter an accessible restroom. Hopefully, most evaluation are equipped with accessible restrooms.

Modified work surfaces can be utilized to determine reasonable accommodations. Individuals in wheelchairs often require tables and desks to be raised to accommodate the wheelchair. Tables and desks can be raised by simply placing standard 2x4, 2x6 or 2x8 pieces of wood under the table legs. If this is not sufficient, then the evaluator can utilize adjustable tables. There are many commercially available adjustable tables, however, a low tech solution to this problem is to contact local hospitals and ask if the hospital has old bedside tables in storage and if the hospital sells these tables at salvage sales. These tables are fairly sturdy and mobile, making them easy to maneuver in the evaluation unit. To increase the size of the work surface, the evaluator can remove the hospital tray and attach a top made of plywood or similar material to enlarge the work surface of the table. The adjustable table can also be utilized to determine if clients can perform activities while standing at work surfaces that are adjusted to the clients height. Clients can be presented many work samples and assessments while standing to determine standing tolerance and to determine if a raised work surface is needed. Often, work benches or work tables in industry are too low for many individuals causing these individuals to work in a stooped position. Working in a stooped position may increase the worker's fatigue and lessen productivity. While the client's standing tolerance is being assessed, it is a good idea to have a foot prop available for the client. Having the client place one foot on the foot prop will ease pressure on the back and may increase standing tolerance. One simple foot prop is a large metropolitan phone book. However, using an adjusted work surface may deviate from the standardization of many work samples that require administration on tables of "standard height". By deviating from the standardized administration evaluators can determine if the client can actually perform the job with a reasonable accommodation.

Another modification to the work surface is the set-up of the work surface and the reach required to access frequently used items. The evaluator can make sure that the client is instructed in the proper set-up of the work area. For example, it is more efficient to have frequently used items set-up within the arc the client makes by moving their fully extended arm from left to right and/or right to left over the work surface. During this movement the arm should be fully extended or extended as much as possible for the client. Also, placing items on a 45 degree platform can reduce forward reach and aid client's with limited reach in performing certain activities. These 45 degree work surfaces can be constructed from plywood or made of metal. The evaluation unit that the author works in has a metal frame that is at 45 degree angle and fits many of the Valpar Work Samples. This frame is used when the client has limited ability to reach the top of the table. In addition, a straight forward reach may be better from an ergonomic point of view than a downward reach. The metal frame was made by the maintenance department at the author's facility. However, if an evaluator needs a similar item, it is recommended that the evaluator contact the local high school or community college metal shop or industrial arts teacher. Many times students are looking for class projects and all the evaluator may need to purchase is the material for the frame.

Non-Skid material is another simple modification that can be used in the evaluation process to aid the client. Often clients have difficulty keeping work samples or papers stationary on the table. By using a non-skid material, the client may be able to perform the task better and this could be easily transferred to the work environment. Velcro type material can also be used to secure material in the testing environment. For example, some computer assisted evaluation tools, have hand controls that require two hands to operate. For example, the Micro Computer Evaluation and Screening Assessment(MESA), from Valpar, has a hand control that requires two hands to operate. The knob used to move the cursor around the screen is difficult operate. Clients generally have to stabilize the device in one hand and operate the knob with the other hand.

However, by placing two strips of velcro type material on the bottom of the hand control and two opposing strips on the area where the hand control is used, the hand control can be stabilized so that it can be operated using just one hand.

Clients often have difficulty recording their answers to many of the assessments. Clients that have difficulty writing may be able to enter their answers using a word processor on a computer. Any assessment that requires alpha-numeric characters for answers can be completed using a word processor. Clients that have difficulty grasping a pencil or striking the computer keys can use a "Universal Cuff" (U-Cuff) and pencil to access the keyboard. A "U-Cuff" is a commercially available product that consists of a leather pouch and piece of elastic. The evaluator simply slides a pencil, pen or other marking device into the pouch and then places the U-Cuff on the clients hand. Not only does this enable the client to respond to the assessment but it also gives the evaluator the opportunity to observe how a client can access a computer keyboard. This method of recording answers may exceed the time limits for many assessments. However, again overall performance and ability to access the computer may be more meaningful information to the evaluator than comparing answers to norm groups. Another use of the U-Cuff is as a page turning device. By inserting a thin object, such as a wooden coffee stirrer, into the pouch, the client can turn the pages of test booklets, such as the Testing Cards on the Valpar Independent Problem Solving Work Sample. The U-Cuff and coffee stirrer are placed on the clients hand and by reaching forward and placing the coffee stirrer under the card, the client is able to advance the pages.

Computers provide many uses to the evaluator and are very easy to modify. Many clients can benefit from computer technology. The evaluator should be familiar with many simple modifications to computers that can enable clients to access the computer. There are commercially available and free software packages that can modify the way a computer keyboard works and how the information is displayed on the screen. Modified or adaptive keyboards are also commercially available. However, a detailed discussion of these modifications and software packages is beyond the scope of this paper.

Many clients may have limited grip strength and require modified tools or other items with enlarged handles. The evaluator may use foam tubing to increase pencil or pen size. This material is relatively low cost and readily available in many catalogs. The evaluator may increase the size of tool handles by simply wrapping the handle in a wash cloth and securing the wash cloth with a hypoallergenic tape. It is suggested that the evaluator avoid using coarse tapes such as masking tape or duct tape. These tapes may irritate the clients hands. For example, the evaluator may wish to utilize this technique when giving the Bennett hand Tool Dexterity Test to determine if the client can benefit from adapted or modified tools.

Summary

Many of the modifications outlined in this paper are simple and low tech but can allow individuals with disabilities to perform many occupations. By including these modifications in the final evaluation report, the evaluator can provide the counselor, client, referral source, and potential employer with reasonable accommodations to improve the employability of the client. The modifications and adaptations described in this paper are not all inclusive and are presented as examples of modifications made to the evaluation process by the author. It is hoped that other evaluators will share their ideas of modifying and adapting the evaluation process at local, state, regional or national seminars, workshops, and conferences.

James F. Parhamovich, M.S., CVE, CRC
Rehab Advantage
2711 Randolph Rd. Suite 100
Charlotte, NC 28207
(704) 342-5400
704) 342-5424 (FAX)

VOCATIONAL EXPERT TESTIMONY

RICHARD STRAUSS, M.Ed., CRC
11191 Tattersall Trail
Oakton, Va. 22124

Abstract

The need for vocational rehabilitation testimony has been created by two means: changes in legislation and changes in litigation. In order to get some perspective on why vocational testimony has become so important, we need to look back in history to first determine when and how the emphasis really began. I believe the place to start is post World War II when there was a thrust to attempt to match skills utilized in the military with the needs of business and industry. It was very long thereafter that the government produced it's first version of the Dictionary of Occupational Titles.

After counselors began being put into place at Veteran's Affairs offices, another change took place. The Social Security disability system put regulations in place which clearly defined what pre-requisites needed to exist in order to determine a person may be able to work. In later years, vocational experts were made an integral part of the system in order to help judges understand the occupational profiles of disabled persons.

One of the next major steps was the passage of the Rehabilitation Act. A nationwide mandate to try to create uniform Individual Written Rehabilitation Plans was put into place and, thus, the need for further completeness of a vocational plan was created.

At the same time the Rehabilitation Act was passed, there were significant changes taking place nationwide in state worker's compensation laws. More statutory language was being promulgated relating to reasonable and necessary vocational rehabilitation.

Coincidentally, some general reforms were also occurring in general tort litigation regarding what is called Proof of Damages It was really during this time from 1972-1982 that the field of vocational rehabilitation mushroomed in size. Certification became a reality; different subspecialties such as job placement, industrial rehabilitation nursing, and vocational evaluation became more important; and private rehabilitation providers seemed to be everywhere.

Presently we have the Americans with Disabilities Act which will give rise to even more awareness to the value and need for vocational evaluation and testimony. The way this country now conducts its business is now changed for good and the only way to insure productive change is to continue delivery effective vocational rehabilitation services.

Generally the need for a vocational expert opinion is only thought of in terms of court proceedings. In reality, everytime there is a request for your services, you are rendering your expert opinion. The things we say and write about our field are our expert opinions. Everytime we make a recommendation for treatment, training, placement etc, we are giving our expert opinions. So even though there is a relatively small percentage of the rehabilitation profession regularly offering expert testimony, all of us are doing it to some degree nearly every working day.

Now, there is a big difference between preparing an IWRP and preparing for court. It's kind of like thinking about driving in the U.S. vs. driving in England. We're still using the same vehicle, but we're on a different side of the road. The methods are virtually the same; only the manner in which it is delivered differs. Since most of the time when we hear the term "expert" we think of court, that is what I will focus on in this brief overview.

First of all, who decides what the qualifications of an expert are? The answer is usually a judge. A person can have the proper education, certifications, licences, and experience and incredible expertise in his/her field BUT unless the court rules the opinions will be heard as "expert" testimony, it does the attorney no good. The more accurate, thorough, and complete an explanation is of one's background and expertise, the easier it will become to overcome any worry about being admitted as an expert.

BEST COPY AVAILABLE

Why is this issue important to attorneys? Obviously because their client has a vested interest in the outcome of the case and usually this will be their only chance at resolution. Who is more important, the lawyer or the client? The answer is your independent judgment is the most important. As the situation in which we are normally involved is adversarial in nature, professionalism and objectivity should come first.

With that in mind, what are a few basic guidelines that may be helpful in keeping the rehabilitation expert's role clear and making the testimony experience less stressful.

1. Maintain Intellectual Honesty - that's what true professionalism and objectivity is based on

2. Maintain Consistency from Case to Case - it should make little difference who contracts for our services, the manner in which they are delivered should remain fairly constant.
3. Avoid Dogmatism - even after many years of experience an attorney recently called me on this issue. Being pragmatic and being yourself are paramount. Take the role of educator, not advocate.

4. Avoid Speculative Opinions - if you can't substantiate your opinion using means customarily relied upon in your field, you will have problems.

5. If You Don't Know the Answer, Don't Answer OR If the Subject Matter is Outside of Your Expertise, Don't Answer.

There isn't time to fully discuss the implications of various types of case referrals, but I will list the nature of some of them. (a) State or Federal Worker's Compensation; (b) Misc. Personal Injury; i.e. medical negligence, products auto, slip and fall; (b) Long Term Disability; (c) Social Security; (d) Divorce; (e) Wrongful Discharge; and probably soon ADA related cases. There also isn't time to discuss the various techniques used on some of the more difficult cases. Those types of cases often involve: (a) children; (b) wrongful death; (c) spinal cord or brain damage; and (d) adults with little or no work history.

It is important to take note of the fundamental reasons vocational expert testimony is needed. They are: (a) to explain the objective rationale for the extent of vocational and economic ability and disability; (b) to explain the raionale for the extent of the loss of vocational opportunity; (c) to explain the appropriateness of a vocational rehabilitation program; and/or (d) to comment upon future life care needs and services of the individual. In nearly 20 years of experience conducting assessment for the litigation setting, I find that most requests can be boiled down into these four areas.

Normally the assessment is geared to help one answer questions about the following issues:

1. Whether or not the client can return to his usual employment.

2. Whether or not the client is competitively employable and, if so, what are the realistic options and wage ranges.

3. Whether or not the client is a suitable candidate for vocational rehabiliation training and, if so, what are the long term implications of successfully completing the training.

4. Whether or not the client is in need of other rehabilitation services, supplies, equipment, therapies, etc. as an integral part of a long term life care plan.

As you can see, the main issues of questioning are directly related to the fundamental reasons for referral. In answering these questions, we usually like to focus also on the following four broad issues.

1. The purpose and goals of your field of expertise as well as the subject matter about which you were asked to form an opinion.

2. The general parameters upon which the evaluation is based.

3. The foundations upon which the conclusions are drawn.

4. The opinions you hold with a reasonable degree of professional probability or certainty.

There have been a multitude of seminars, journal articles, legal decisions, and texts written on the subject of vocational rehabiliation testimony. My thrust for this seminar was only to highlight a few basic issues. I would recommend persons interested in further exploration to purchase the Guide to Rehabilitation or A Guide to Rehabilitation Testimony both available from PMD Press (1-800-438-5911). I can't give you the Ed McMahon line that everything you will ever want to know is in these resources, but whether you are a novice or experienced expert, you will find them as useful guides. Some of the principles I have cited come from those resources. Needless to say, nothing will beat actual experience and networking with other vocational experts to see what their views are on the issues.

Documenting Functional Performance Criteria in Work Capacity Evaluations

Virgil Robert May III, Ph.D.

Abstract

The forensic rehabilitation process demands that the vocational evaluator provide valid and reliable data when giving testimony in either deposition or courtroom settings. This is essential in that presenting valid functioning criteria can determine the amount of damages to which the plaintiff and defense attorneys will agree, or by which a jury will award at the end of deliberations. The tool used to convey the evaluator's opinion(s) is the evaluation report generated either during or immediately following the comprehensive evaluation. The traditional report reviews the evaluee's medical history, subjective complaints, tests administered, test results, and applications of these results to areas of interest as outlined by the referral source. Although the validity of the tests administered can be demonstrated through a presentation of the individual test validity research, the interpretation and applications of the results require closer scrutiny. Interpretation of results in vocational evaluation reports is not subject to validation research typical of instrument development. Thus, the evaluator is left in a vulnerable position to demonstrate that the functional performance results generated by the evaluee are a direct result of his or her maximum voluntary effort vs. "managed" effort. The best defense when doubt is raised rests with the evaluation protocol and how well the report actually documents the evaluee's performance. This paper reviews a standard evaluation protocol for work capacity evaluation, demonstrating how traditional vocational evaluation work samples are integrated in a traditionally therapy oriented physical test of strength, endurance, and flexibility. Documentation through image digitizing using Windows ™ graphic user interface (GUI) and the Fotoman ™ video frame camera is demonstrated through two case studies.

The primary purpose of vocational evaluation is to assess and predict work behavior and vocational potential (Nadolsky, 1972). Since the establishment of private sector rehabilitation services in the late 1970s, this purpose has been broadened to include the determination of the degree of limitation imposed by an event (i.e., accident), whether it be work related or from a personal injury (i.e., automobile accident, product liability, etc.) (Sink & King, 1983). From a theoretical perspective, a complete vocational evaluation should include, in addition to work samples, a variety of practical, realistic work activities that require an active physical response from the evaluee with regards to the tools, tasks, and procedures employed in each work situation (Nadolsky, 1983). This model is not exclusive to one's practice orientation, but should be applied to all rehabilitation service settings, whether the setting be that of the more traditional state agency/private-not-for-profit evaluation unit or of a forensic clinical setting for litigation purposes. As we progress into the 1990s, the standard of vocational evaluation becomes more demanding in terms of protocol and documentation. Not only must evaluators continue to provide trait and aptitude measurement using standardized work samples, but they must also identify the functional competencies and the functional deficits (disabilities) imposed upon the disabled individual by the adventitious injury in question (Chandler, 1983). The vocational evaluator assumes an additional role of documenting functional behaviors perpetuated by the physical exertional demands of the simulated work activities and of the specific work samples administered.

Evaluation Model Choices

Documenting behavioral responses to simulated work and work sample activities as well as noting mechanical limitations is best achieved when the evaluator is working from a standardized evaluation protocol. It is the aurthor's opinion that working within a standard evaluation protocol affords the evaluator several advantages:

1. **Structure**: The evaluation is highly structured, removing any "guesswork" or uncertainty about what areas to evaluate or not to evaluate from the evaluator's planning process.

2. **Timeliness:** A structured protocol minimizes evaluation planning time as well as test administration time. With tests pre-selected, evaluators are well experienced in their administration and in interpretation applications.

3. **Consistency**: A standard evaluation protocol allows consistency in test administration, test result applications, and in determining what areas (traits, aptitudes) to measure. Measuring the same traits within an evaluation protocol across client populations assures consistency in measurement techniques and a reduction in potential evaluator error.

4. **Research**: A standard evaluation protocol encourages research within the respective evaluation system, thus assuring ongoing program, or system evaluation and overall maintenance of protocol quality.

For purposes of this paper, the term "standardized" model reflects more of a consistent protocol rather one that has a research base with normative data. Blair, McCormick, Bear-Lehman, Fess, and Rader (1987) noted that for a system to be standardized, the following criteria must be met:

1. Statement that defines the purpose or intent of the test.

2. Correlated statistics or other appropriate measures of instrument validity.

3. Correlated statistics or other appropriate measures of instrument reliability.

4. Detailed description of equipment used in the test.

5. Normative Data

6. Specific instruments for administering, scoring, and interpreting the tests.

The author's literature search did not reveal any "standardized" evaluation models meeting the above 6 criteria. However, Isernhagen, Mokros, Miller, and Johnson (1988) developed the Functional Capacities Assessment™ (FCA) through their clinical research at the Polinsky Medical Rehabilitation Center in Duluth, Minnesota. Their research focused on determining trends in patient performance while being assessed in areas influenced the most by age and gender, 1) weight handling, 2) stair climbing, and 3) balance. The FCA model evolved from their research efforts, but is limited in application to the three areas tested. However, their research remains the first of its kind in attempting to standardize an evaluation protocol for a functional work test.

Other models were reviewed which encouraged consistent component utilization, but maintained a significant vocational evaluation focus (Matheson, 1988; May, 1984; May, Stuart, & Barnes, 1986; May, 1988). The physical capacity, or work capacity evaluation process is not new to vocational evaluation (Ayres, 1954; Cooke, 1937; Reuss, Rawe, & Sundquist, 1958; Stevens, 1950; Wegg, 1957; Wilson, 1951; and Worchell, 1938). Matheson, Ogden, Violette, and Schultz (1985) presented the first upscaled work evaluation model which has provided the standard by which many work evaluation programs follow. Prior to Matheson's et al. (1985) presentation, May (1984) detailed his program model which was based on Matheson's (1984) and Matheson and Ogden's (1983) evaluation manuals. The components of which May (1984) incorporated and continues to use include the following:

1. Clinical Interview
2. Client (patient) profiling
3. Grip Strength Tests
4. Dynamic Strength Testing (Psychophysical)
5. Work Sample Administration
6. Functional Activity Assessment

The consistent protocol the author uses within the 6 components include the clinical interview, the client/patient profiling, the grip strength testing, and the lifting evaluation. Flexibility is incorporated into the program through the work sample administration and the functional activity assessment. These two components vary depending on the individual patient's workplace characteristics, assigned work tasks, and the specific evaluation/referral questions. There are instances where work samples are waived due to their lack of application to the patient's actual work tasks or due to the referral source instructions. However, all patients receive the first 4 components regardless of the referral source's preferences.

Clinical Interview: The clinical interview is an in-depth review of the patient's medical, vocational, financial, and psycho-social histories. This component consumes a significant amount of time (1.5-2.0 hours). It is at this point where rapport is established and the first behavioral observations are documented, which may include posturing, gait pattern when walking from the waiting area to the evaluation room, verbal responses and tone, and attitudes regarding current situational changes. The medical and vocational histories are explored in depth. The clinical interview is documented on a standardized form (Intake Questionnaire) completed by the evaluator, and profiling forms are completed as well, but by the patient.

This may be a sensitive time for the patient since rapport and trust have not been completely established. When discussing the financial history, it is best to document any problems with credit or creditors rather than focus on specific income/expense amounts. One way to kill an interview and ruin any changes of rapport/trust building is to create a defensive environment for the patient though questioning of sensitive areas. From an unbiased perspective, the only use for financial information is to determine the stress factors which may be contributing to the patient's dysfunctional profile, not whether or not the individual is financially comfortable such that returning to work is a low priority.

Patient Profiling: One of the best resources for determining whether or not the patient is functioning from a chronic disability mind-set, or whether or not the patient will be able to complete the physical evaluation activities is through his or her pain profiling. Pain profiling is accomplished through the patient completing one of several forms which requires the individual to rate his or her pain/discomfort on an 11 point analogous scale. Profiling also consists of the individual documenting changes in function to 25 or more sensory or physical activities, and completing an anatomical pain diagram. This is the most subjective aspect of the evaluation since there is no way to validate these profiles except through a comparison of the patient's pain response to the evaluation activities and profiled responses completed prior to engaging in the physical activities. Inconsistencies in pain patterns should invalidate the profiles.

Kremer and Block (1981) studied the accuracy of patient self-report of physical activity and social behavior. They studied a sample population of 4 patients' self ratings of pain intensity over a 3 day period in an inpatient pain program. Their study concluded that 3 of the 4 patients significantly under reported their well behavior, and that patients' self report cannot serve as an accurate index of the effectiveness of therapeutic intervention.

Their conclusion is a bold one given the limitations of their study (i.e., sample size, research design flaws, etc.). A more powerful study by Turner and McCreary (1983) studied a sample population of 250 chronic low-back pain patients. They evaluated the efficacy of the MMPI, a physician's rating form predicting the patient's performance based on medical/functional histories, and a 10 point analogous pain scale. The results showed that the 10 point scale was a better predictor of patient performance over time in response to treatment when compared to the MMPI and the physician's rating forms. More importantly, it validated the patient's self report integrity.

The anatomical pain diagram is extremely useful when determining the dysfunctional nature or attitude of the workers' compensation patient. Goldman and Merritt (1991) noted that the anatomical pain drawing actually identifies and localizes pain areas and determines one's tendency to magnify symptoms. Combining the anatomical pain diagram with the 11 point analogous pain scale and the symptom functional change form provides the evaluator with a powerful tool for determining chronic pain and symptom magnification tendencies.

Grip Strength Testing: Measuring grip strength has proved to be useful in assessing physical characteristics, progress in rehabilitation and degree of disability in upper extremity injuries (Smith, Nelson, Sadoff, & Sadoff, 1989). Smith et al. (1989) noted that it is an ideal method for determining one's sincerity of effort, or maximum voluntary effort. The author has found in his clinical evaluation experience that when patients perform inconsistently on the grip test, their self profiling reveals significant dysfunction with elevated pain response patterns. Similarly, their scores on work samples don't register within the norm group to which they were compared, and they do not complete assigned functional simulated work activities.

The utility of grip strength testing is significant in vocational evaluation. This simple test is useful in ergonomic estimations of physical work capacity, and can clinically assess one's rehabilitation progress and overall disability (Smith et al., 1989). Resulting behaviors of the patient can be generalized to the other activities of the evaluation such that the evaluator has a good feel for how the individual will perform during the remaining evaluation period.

Lifting Evaluation: Evaluating one's ability to lift objects is a major component of the forensic vocational evaluation process. It is the standard by which one's ability to return to work is often measured, and it is also one of the most erroneously applied measures given the protocol frequently used by physicians and therapists. One's medically assigned physical restrictions are often taken solely from his or her's estimated ability to lift weight rather than a demonstrated lift before the evaluating physician. Ziporyn (1983) noted that physicians are inadequately trained at determining physical impairment or functional limitations. He cited a lack of uniformity of evaluation standards and procedures and a lack of training programs within medical school curricula as the primary reason for incompetency in functional lifting evaluations. These issues are further supported by Fleeson (1988), who noted that the medical evaluation of function was originally designed as an individual disease and symptom checklist, and was not specific or relevant to the evaluaee's actual work suitability.

The medical evaluative competency issues also transcend to the therapeutic professions (i.e., physical and occupational therapy). Therapists have a tendency to document the patient's maximum weight lifting at one time as being the maximum allowable lifting limit, rather than consider other variables such as symptom responses over repeated lifts (endurance) or vertical work plane modifications. Physicians evaluate lifting in this manner because impairment/return-to-work examinations are a secondary revenue producer, and therefore they focus the majority or their practice time to addressing and treating disease (Ziporyn, 1983). Similarly, therapists in hospital settings as well as in private practice settings are encouraged to see as many patients as possible to enhance their respective facility's revenue base. Performing an evaluation which involves non-repeated measures enables the therapist to see more patients thus meeting hospital revenue projections. Therefore, functional capacity evaluations, or more specifically lifting evaluations are considered to be a secondary revenue producing service and therapeutic roles are directed to patient treatment.

Because of the time constraint issue, the clinical evaluator, whether that person be a physical/occupational therapist or vocational evaluator, is best suited to perform an extensive, time-invovled functional lifting evaluation.

180

Functional strength tests in the vocational evaluation process allows the evaluator to provide direct work simulation while testing worker traits and aptitudes. Specifically, it allows the evaluator to observe the evaluee's response to sustained work activities, to observe compensatory posturing in response to discomfort, and to observe how a person uses his or her body in the exertion of force (body mechanics) (Morris & Anderson, 1988). There are three types of functional strength tests noted by Matheson (1986) and Morris and Anderson (1988). These include:

1. **Isometric Tests**: This form involves the exertion of a force in a given posture against a fixed resistance. In other words, the person's strength is measured by one's application of force against an immovable appenditure on the testing unit. Data is recorded on a load cell. This form of strength testing is known as "static", and has significant limitations. Matheson (1986) noted that this form of testing is potentially injurious to the evaluee and has limited validity since it does not simulate the dynamic exertional demands placed on workers. It does not allow for the dynamic changes in posture, joint loading, and muscle strength/ratios that accompany functional activity (Morris & Anderson, 1988).

2. **Dynamic Tests**: Dynamic tests are commonly referred to as isokinetic tests which allow the measurement of forces throughout a range of movement. The velocity of movement remains constant throughout the range of motion curve with resistance to the lift adjusting to the force output. Isodynamic test velocity varies whereas the resistance of load is preset, or fixed (Morris & Anderson, 1988). This form of testing is referred to as "dynamic" (Matheson, 1986), and should be the preferred choice of evaluators over that of "static".

3. **Psychophysical Tests**: Another form of dynamic tests, these tests measure a persons tolerances to various tasks, requiring the evaluee to handle boxes in a way that simulate the activity of the actual job. This method is considered one of the most accurate methods of determining a person's acceptable performance limit for a given task (Morris & Anderson, 1988). However, the disadvantages noted include extensive time for test administration and requires maximum cooperation from the evaluee.

Psychophysical testing is the primary mode of lifting assessment the author uses. This type of testing closely simulates the specific ergonomics required of the evaluee's job, and allows the evaluator to observe and collect data on an evaluee's ability to function in all three planes of motion.

Work Samples and Functional Activities: Work samples are used in the functional capacity evaluation process primarily due to their relatedness to actual work behaviors and job performance. Poor performance on these tests usually indicate a potentially substandard performance in the real world. Cole and Wilkins (1983) stated that work samples allow the evaluator to measure the evaluee's work attitudes, motivation, self-concept, interpersonal relationships, initiative, concentration, attention span, and physical stamina (endurance). As applied to functional capacity evaluations, the advantage of work samples are as follows:

1. The work sample is the closest approximation of the reality of work that can be achieved within the evaluation unit.

2. Overall evaluee performance is very similar to that required in the actual work setting.

Work samples make excellent functional activities depending on the evaluee's current work settings. For example, the VALPAR 4 Upper Extremity Range of Motion Test is an excellent tool to simulate tasks requiring extensive manual/finger dexterity and motor coordination for assembly jobs. The author has used this test to help electricians increase stamina and enhance symptom control and management qualities, since some electrical work settings focus on these traits. Additionally, the VALPAR 4 unit requires posturing which simulates that which is required of many industrial jobs. Thus, the evaluator is able to document how an evaluee responds symptomatically over time to the varying postures required of the work sample, gaining a better perspective as to how the evaluee will tolerate the postures required of the job. Before using the work sample as an activity center, however, a formal standardized evaluation is performed on the unit. This allows documentation of trait levels without any threat to validity.

Functional activities are not limited to worksamples. The evaluator may have to use some creativity to simulate the actual biomechanical processes and ergonomics required of the evaluee's respective job. The author uses a consistent activity battery which includes pushing and pulling, stair climbing, crate stacking, and crate carrying. Please note that these activities involve the three areas researched by Isernhagen et al. (1988) in their functional capacity assessment research. Specific work tasks are simulated in addition to the consistent battery the author uses when requested by the referral source. Simulation of specific job tasks requires the purchasing of additional materials and/or retrieving equipment from the evaluee's employer for temporary use. Thus, although the protocol is consistent, each subsequent functional activity component is tailored to the work demands and setting confronting the evaluee.

Process and Documentation

The functional evaluation process reviews 7 areas of potential work deficiencies related to disability:

1. Quickness of Action
2. Coordination
3. Strength
4. Security
5. Endurance
6. Safety
7. Prestige of Physique (Nordby, 1987)

The traditional functional/work capacity evaluation focuses on three primary areas of the above disability areas, which include strength, endurance, and flexibility (range of motion) (Mayer, 1987). Isernhagen (1988; 1991) and Matheson (1986) noted that in addition to strength, endurance, and flexibility, pace (speed of motion), aerobic capacity (cardiopulmonary function), and safety should be documented in the functional evaluative process.

Referring to the author's 6-point model (clinical interview, client profiling, grip strength, dynamic strength testing [psychophysical], work samples, and functional activities), documentation is achieved through the patient's self profiling, the evaluator's behavioral observations, and the patient's work sample results. The latter is fairly straight forward and is accomplished through comparing time-on-task data to the normative data supplied with the respective work sample. The other two documentation methodologies require extensive repeated measures and some unique instrumentation atypical of vocational evaluation and disability/impairment examination processes.

Repeated Measures: Repeated measures require that the evaluee be queried about specific symptoms in response to evaluation activities, and to perform evaluation activities repeatedly using the exact protocol and setting between activity trials. For example, this evaluator asks the evaluee to rate his or her discomfort level prior to the administration of tests. An 11-point analogous scale is used to record his/her responses ("10" meaning totally symptomatic and dysfunctional and "0" meaning no symptoms at all). The evaluee is questioned about symptom responses after completing each component of the evaluation. When engaged in functional activities, the evaluee is queried after each assigned activity. Symptom response data is collected at a minimum of 15 minute intervals for each activity repeatedly until the activity is finished. At the conclusion of the evaluation period, there may be between 5 and 10 symptom documentations.

The dynamic lifting evaluation is performed using repeated measures. Using a standardized protocol developed by Matheson (1986), the evaluaee is required to perform lifting motions repeatedly over a designated vertical plane while gradually increasing resistance after completing each trial. This technique allows the evaluator to identify biomechanical problems and adjustments, vertical work plane modifications, and overall expressive pain behaviors. It also allow the evaluator to monitor symptom response patterns as the evaluee increases his or her time on task. Such monitoring provides valuable symptom tolerance data that can be used to predict the evaluee's potential for success in returning to work.

Image Processing: This is the newest concept in documenting functional performance in vocational evaluation. A complete literature review indicated no documentation of its use in disability/impairment studies or vocational and work/functional capacity evaluation. This is understandable since the technology for imaging has been just become available and affordable commercially. The purpose of image inclusion in evaluation reports is to allow the reader to gain a better understanding of the evaluee's functional capabilities and limitations as detailed in the text. A visual concept provides clarification to the expressed ideas when documentation is not specific about a point of reference.

Tools of the Trade: In order to provide repeated measures documentation and imaging in the evaluation report, a computer graphics user interface (GUI) is required. The GUI is available in either the Macintosh™ for the Apple™ computer line or Windows™ 3.1 for the IBM™ computer system. The author prefers the IBM™ line primarily for price considerations. The Macintosh™ is better suited for graphics since it operates off of a 32 bit chip rather than the 16 bit chip found in IBM systems. However, the author notes that IBM compatible systems are as efficient but without the speed of the 32 bit machines.

The GUI system under which the data is documented for inclusion in the final report is that of Windows™. This system requires MS-DOS® version 3.1 or later (preferably 5.0), an 80386 processor for enhanced operations (preferred over standard operation), 640 kilobytes (K) of conventional memory plus 1024K of extended memory, 8 megabytes (MB) of hard drive disk space, and at least one floppy drive. The video adapter should be a minimum of VGA, and a laser printer printing at 300 dots per inch (DPI) is recommended. The author suggests the following configuration for minimal internal program processing conflicts and editing speed:

1. 8 MB of Random Access Memory (RAM)
2. 100 MB of Hard Disk Drive Space
3. Super VGA Adapter (SVGA)
4. 33-40 Megahertz of Speed (33Hh-40Mh)
5. Mouse Supported by Windows GUI

With the above configuration, the author averages between 45 and 60 minutes of keyboard time per report to edit the image placement and repeated measurement graphics. Any machine slower (20Mh-25Mh) will extend the time significantly to 90 to 120 minutes.

Repeated measures graphics are created using Harvard Graphics for Windows™, Version 1.0. This program consumes 14 MB of hard disk space and 2MB of RAM. It is excellent for creating line graphs used in plotting performance data, and the filters supplied with the graphic package allow easy importation into the Windows™ work processor.

The images are created using the Fotoman™ digital camera for computers. The camera holds up to 32 images, and are transferred to the computer through a serial cable connection. Images can be edited through the image software supplied with the system. However, the Windows™ 3.1 word processor makes the adjustments automatically when the image is imported into the current file.

The word processor used by the author is Amipro™. This processor is known for its graphics capabilities and frame editing. Developed by Lotus™, it comes with excellent critical reviews and technical system support services. However, those familiar with the Windows™ environment know that technical support for application programs is basically unnecessary with the on-line help programs included in the bundled software application packages.

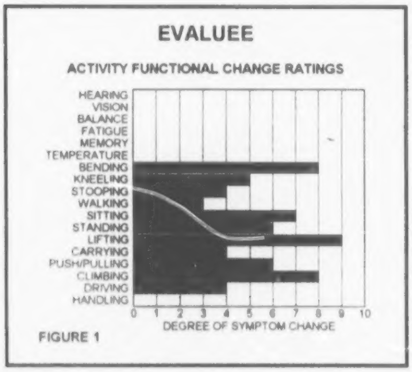
Case Studies

The documentation of evaluation performance as suggested in this paper is best illustrated through case study. The author presents two cases that utilize image processing to document postural/mechanical compensation, vertical and horizontal work plane functional levels, and activities of daily living (ADL) competency. Repeated measures documentation is illustrated in Case Study 1.

Case Study 1. Ms. Evaluee is a 45 year old white female, 12th grade education, who sustained soft-tissue injuries to her cervical and lumbar spine in an automobile accident. Her date of accident was 10/4/90 placing her approximately 19 months post injury at the time of work functional capacity evaluation (5/18/92). Her subsequent medical/rehabilitation treatment consisted of 5 months of physical therapy, and 8 steroid injections to the left sacroiliac region. She maintains periodic osteopathic spinal manipulations. She noted only temporary relief, and continues to remain symptomatic such that she has not been able to return to her work since her accident. She works as a supervisor of a microfiche company, and has to perform her work assuming sustained sitting and forward flexed cervical and lumbar postures.

She completed a self-report physical activity questionnaire, a symptom rating chart, and an activity rating chart. The activity rating chart is illustrated in Figure 1.

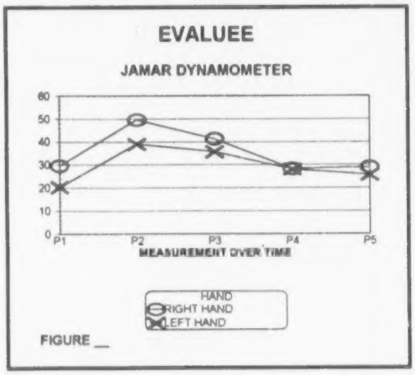
Figure 1. Evaluee's perceived level of symptoms and dysfunction.



The data show significant perceived changes in function and symptoms in activities which are typical of her job, such as bending, kneeling, stooping, carrying, sitting, and climbing stairs. These activities are monitored throughout the evaluation and any change in symptom response patterns are noted. The Figure 1 is exactly as it appeared in her final evaluation report.

Grip strength data were collected to evaluate her maximum voluntary effort, or consistency of effort over time. These data are illustrated in Figure 2.

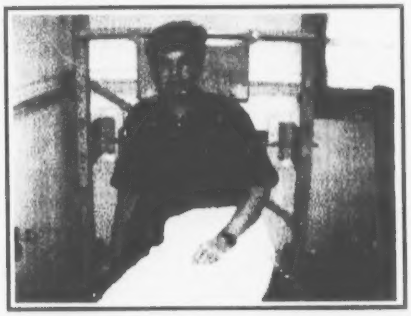
Figure 2. Evaluee's grip performance over time.



The above data do not present "textbook" performance patterns, but do demonstrate some symmetry. There is some inconsistency at P4, but the peak strength is demonstrated at P2 which is expected. Overall, the grip patterns represent a consistent effort, and her effort places her within the lower range of the average output for females within her norm group.

During the evaluation, several images were taken to document her postural responses to activities, as well as her postural compensation with sitting. Her sitting posture is illustrated in Figure 3.

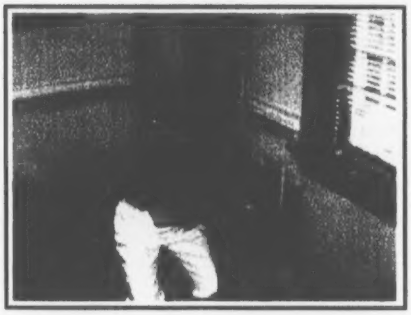
Figure 3. Sitting posture compensated for left sacroiliac discomfort.



Please note the lateral shift to the left. She stated that frequent shifting provided some temporary relief, and that shifting to the left provided the most relief. This figure is exactly as it appeared in her initial evaluation report.

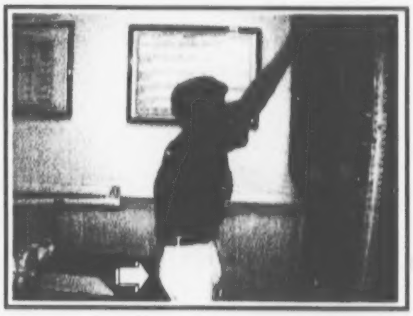
Further evidence of dysfunctional behavior is illustrated in Figure 4. She is attempting to resume a standing posture after bending at her waist to reach with her left upper extremity to the lower vertical work plane ranges. She required the assistance of the vertical plane measuring post to assist her to a standing position.

Figure 4. Attempt to resume a standing position during the Vertical Work Plane Assessment without resistance.



Her performance in the functional activities also demonstrated some compensatory pain behaviors and lower trunk weakness. She was requested to maintain a standing position while manipulating nails in a nail board. This activity was performed with her reaching above her head. She was able to sustain this activity for 20 minutes, but after 12 minutes, she sought pain relief by positioning her buttocks against the work table. Her compensatory posture is illustrated in Figure 5.

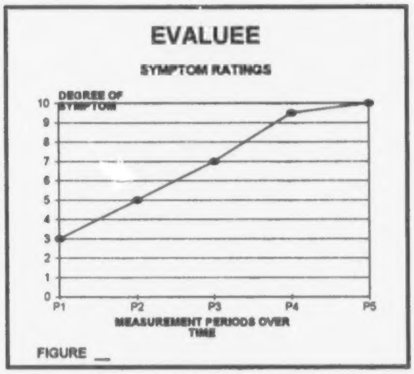
Figure 5. Compensatory standing posture during the nail-board activity



Please note the "arrow" used in many images for clarification purposes. This is made possible by combining Harvard Graphics™ with the image processing software. The "arrow" is imported from the graphics program.

She completed this evaluation within a 4.5 hour period. She rated her symptoms at the conclusion of each activity, and they are illustrated in Figure 6. Please note the consistent elevated symptom patterns,. When she finished her last activity, she noted that her symptoms had become unmanageable and that she was unable to continue. I terminated this evaluation due to her symptom response patterns and her overt pain behaviors.

Figure 6. Symptom ratings over the 4.5 hour evaluation period.



Case Study 2: Image processing has broadened the appeal and utility of evaluation in rehabilitation as this case demonstrates. Prior to his death, Mr. Charles Stamper gave the author permission to use any and all information pertaining to his case for research and publication purposes.

Mr. Charles Stamper was a deathrow inmate who received 3 capital murder convictions and 4 associated felony convictions on November 17, 1978. He was employed as a cook at the time of his arrest on March 25, 1978, and he was charged with the murder of 3 coworkers and robbery of the establishment. He was found guilty on all charges and sentenced to death on each of the 3 murder convictions and life imprisonment on each of the 4 felony convictions. He was sentenced to die in Virginia's electric chair pending automatic appeals.

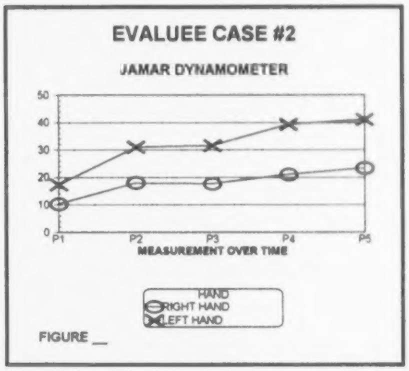
While incarcerated, Mr. Stamper received multiple injuries to his spine and head resulting from attacks from other inmates. His diagnoses prior to his execution included cervical disc herniation, C4-5, clonus of both ankles, spasticity of the lower extremities, transverse spinal chord syndrome, and incomplete neurogenic bowel and bladder. One of his physicians termed his condition as that of Brown-Sequard Syndrome with quadraparesis. His prognosis was considered poor, noting that he was susceptible for further deterioration from systemic illnesses (i.e., lung and urinary tract infections) as a consequence of his paralysis and reduced body function. He was incontinent in bowel, but retained some bladder control.

Mr. Stamper's legal counsel submitted a petition for clemency to Governor Wilder's office shortly before the date of his scheduled execution. The issue was that Mr. Stamper no longer posed a threat to society as a result of injuries he received while incarcerated. Affidavits were presented to the Governor's office on behalf of the Commonwealth countering the clemency claim of dysfunction. The author was retained by Mr. Stamper's legal counsel to validate his functional deficits and disability. This was accomplished through image processing of ADL skills and work sample behaviors approximately 6 days before his scheduled execution.

Because the affidavits claimed Mr. Stamper was able to pack his pipe with tobacco and light it, cut on and off his television as well as change channels, and walk, I included a study of these activities in addition to the JAMAR dynamometer grip strength test, pinch gauge test, Bennett Handtool Dexterity test, the VALPAR Upper Extremity Range of Motion test, and bed transfer demonstrations.

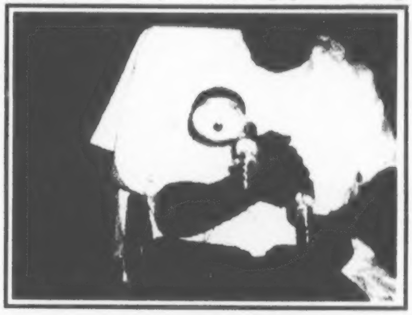
His grip mechanics are illustrated in Figure 7.

Figure 7. Grip strength patterns over repeated measures.



Please note the inconsistencies in his performance patterns which are consistent with his multiple injuries and subsequent upper extremity sequela. His patterns are contraindicated as applied to the research data for males within his norm group. This is a consistent effort, however, as demonstrated by the symmetry between his right and left hands as he progressed through the 5 positions. Further weakness of his hand function is illustrated in Figure 8. This illustration also demonstrates his ability to grasp and hold objects, but not in a functional, competitive activity perspective. (Note support from left hand)

Figure 8. Jamar Dynamometer grip and holding of instrument.



As noted in his medical records, his right hand was limited such that he was unable to extend his third, fourth, and fifth digits. This produced a "claw" hand effect, and is illustrated in Figure 9. Because of his ability to manipulate his thumb and index fingers, he was able to cut his television on and off as well as change the channels since his television was "push button". His ability to perform this mechanic is illustrated in Figure 10.

Figure 9. "Claw hand" illustrated, 3rd, 4th, and 5th digits

Figure 10. Turning on/off television with "claw hand"

The author used the Bennett Handtool Dexterity Test and the Valpar Upper Extremity Range of Motion tests to demonstrate his ability to manipulate objects with his fingers and hands. His performance on the Bennett and the Valpar is illustrated in Figures 11 and 12 respectively.

Figure 11. Bennett Handtool Dexterity test

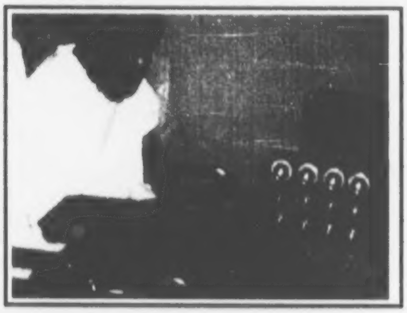
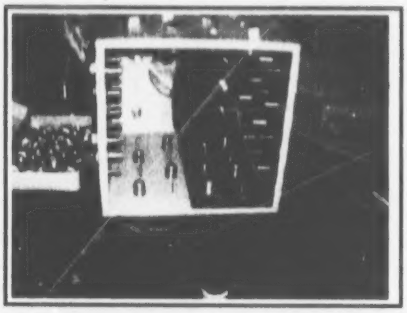


Figure 12. Valpar Upper Extremity test



The illustrations in Figures 11 and 12 suggest that Mr. Stamper had the dexterity to manipulate objects as well as work with tools in an efficient manner. However, he was unable to complete the assigned tasks due to hand fatigue and weakness resulting in fumbling parts and tools. His performance was not considered to be that of a functional performance.

Because it was suggested that Mr. Stamper was "independent" in his ability to function, the author had him demonstrate his ability to transfer from his wheelchair to the commode and to reposition himself once in bed. These functions are illustrated in Figures 13 and 14 respectively.

Figure 13. Commode Transfer with Assistance

Figure 14. Bed repositioning using the left functional extremity.

The above illustrations demonstrate that Mr. Stamper was not independent in his daily functions. He required assistance with the transfer for his wheelchair to the commode, and when questioned, he and the correctional officer confirmed that he required assistance with transfers from his chair to his bed. He demonstrated enough function in his left upper extremity to reposition his body in bed to prevent sores. However, this was accomplished only with the left upper extremity and during waking hours. His system was unresponsive to long-term positions when asleep, thus increasing the risk of dicubiti ulcers.

To summarize, this evaluation showed that Mr. Stamper was no longer functional independently due to the injuries he sustained while incarcerated. He was not independent in his wheelchair transfers. He was unable to sustain a walking gait pattern without spasticity, his right hand was totally dysfunctional due to his "clawing" effect, but served well as a "pointer" for his television, and was used as a stabilizer when engaged in bimanual activities. He accomplished the functional tasks the affidavits claimed he was able to do by using adaptive skills to compensate for his functional loss. The author submitted the report stating the results as noted, and Mr. Stamper was given a temporary stay of execution pending further medical evaluation and consideration.

Conclusions

Vocational evaluation has made great strides since its evolution in the 1950s and growth in the 1970s. The 1990s appear to be a time in which evaluation applications will expand in the market place with the available computer technology. However, much research is needed to determine valid and reliable methodologies for evaluating function combining vocational evaluation principles and technique. While technology exists to achieve comprehensive, detailed, and effective functional studies, applying this technology to the vocational evaluation field requires additional investigation and interest from all persons involved in the Vocational Evaluation and Work Adjustment Association (VEWAA), and in vocational evaluation in and of itself.

The author recognizes that the protocol presented in this paper lacks "standardization" under the criteria suggested by Blair et al. (1987). Although the author's evaluation protocol does not meet all 6 criteria, it utilizes standardized instrumentation and consistent evaluation protocol which minimizes threats to criterion related validity. The utility of repeated measures in vocational evaluation requires further study, but it is this author's opinion that repeated measures is one answer towards minimizing threats to criterion related validity, determining evaluee "managed" effort vs. maximum voluntary effort.

The use of imaging in vocational evaluation reports is new to our profession, and much time will pass before we know and fully understand its potential. As in all new but untested procedures, there comes the probability of abuse. The potential for misrepresentation in pictures, or misinterpretations of images by the evaluator to suit the prejudices of the referral source exists. Perhaps new technology should be reviewed and further investigated by the certifying boards of our respective specialites (i.e., CWAVES, CRC).

Vocational evaluation is on the threshold of an new evolution in forensic rehabilitation for the 1990s and into the 21st Century. The computer industry has helped make this possible, and with good solid research coupled with professional regulation, vocational evaluation can emerge as a competent, necessary service for all persons involved in the vocational rehabilitation process.

Virgil Robert May, III, Ph.D.
May Rehab and Therapy Services
2305 North Parham Road
Richmond, VA 23229

Trademarks

Windows and MS-Dos are registered trademarks of Microsoft Corporation.
IBM is a registered trademark of International Business Machine Corporation.
Macintosh and Apple are registered trademarks of Apple Corporation.
Amipro and Lostus are registered trademarks for Lotus Corporation.
Harvard Graphics for Windows is a registered trademark of Software Publishing, Corporation.
Fotoman is a registered tradmark of Logitech, Incorporated.
Functional Capacity Assessment is a registered trademark of Isernhagen and Associates.

References

Ayres, A. J. (1954). A form used to evaluate the work behaviors of patients. *The American Journal of Occupational Therapy*, 8(2), 73-74.

Blair, S., McCormick, E., Bear-Lehman, J., Fess, E., & Rader, E. (1987). Evaluation of impairment of the upper extremity. *Clinical Orthopaedics and Related Research*, (221), 42-58.

Chandler, A. (1983). Selected concerns in vocational evaluation . In Lassiter, Lassiter, Hardy, Underwood, & Cull (Eds.), *Vocational evaluation, work adjustment, and independent living for severely disabled people* (pp.18-29). Springfield: Charles C. Thomas.

Cole, J., & Wilkins, R. (1983). The use of work samples in evaluation. In Lassiter, Lassiter, Hardy, Underwood, & Cull (Eds.), *Vocational evaluation, work adjustment, and independent living for severely disabled people* (pp.65-78). Springfield: Charles C. Thomas.

Cooke, D. (1937). Industrial therapy as applied to an occupational therapy department. *The American Journal of Occupational Therapy*, 16(1), 39-45.

Goldman, S., & Merritt, J. (1991). Using the pain drawing in evaluating the low back disorder. *The Journal of Musculoskeletal Medicine*, August, 14-24.

Fleeson, W. (1988). Preplacement physical examinations. In Isernhagen (Ed.), *Work injury: Management and prevention* (pp. 106-114). Rockville: Aspen Publishers, Inc.

Goldman, S., & Merritt, J. (1991). Using the pain drawing in evaluating low back disorder. *The Journal of Musculoskeletal Medicine*, August, 14-24.

Isernhagen, S. (1988). Functional capacity evaluation. In Isernhagen (Ed.), *Work Injury: Management and Prevention* (pp. 139-174). Rockville: Aspen Publishers, Inc.

Isernhagen, S., Mokros, K., Miller, M., & Johnson, L. (1988). Functional capacities assessment research: The relationship of age and gender to functional performance - Patients and uninjured subjects. in S. Isernhagen (Ed.), *Work injury: Management and prevention* (pp. 184-191). Rockville: Aspen Publishers, Inc.

Kremer, E., & Block, A. (1981). Behavioral approaches to treatment of chronic pain: The inaccuracy of patient self-report measures. *Archives of Physical Medicine and Rehabilitation*, 62, 188-191.

Matheson, L. (1984). *Work Capacity Evaluation: An Interdisciplinary Approach to Industrial Rehabilitation*. Anaheim, California: Employment Rehabilitation Institute of California.

Matheson, L. (1986). Evaluation of lifting and lowering capacity. *Vocational Evaluation and Work Adjustment Bulletin*, 19(3), 107-111.

Matheson, L. (1988). Integrated work hardening in vocational rehabilitation: An emerging model. *Vocational Evaluation and Work Adjustment Bulletin*, 21(2), 71-76.

Matheson, L., & Ogden, L. (1983). *Work Tolerance Screening*. Anaheim, California: Employment and Rehabilitation Institute of California.

May, V. (1984). Physical capacity evaluation and work hardening: The carle clinic association model. In C. Smith and R. Fry (Eds.), *National forum on issues in vocational assessment: The issues papers* (pp. 233-239). Materials Development Center, Stout Vocational rehabilitation institute, university of Wisconsin-Stout, Menonomie, WI.

May, V. (1988). Work hardening and work capacity evaluation process: Definition and process. *Vocational Evaluation and Work Adjustment Bulletin*, 21(2), 61-66.

May, V., Stuart, R., & Barnes, L. (1986). Industrial rehabilitation: A physical capacity evaluation and work hardening model. *Carle Selected Papers*, 38, 39-43.

Mayer, T. (1987). Assessment of lumbar function. *Clinical Orthopaedics and Related Research*, (221), 99-109.

Morris, A., & Anderson, C. (1988). Pre-Employment screening: The physical perspective. In Isernhagen (Ed)., *Work injury: Management and Prevention* (pp. 92-105). Rockville: Aspen Publishers, Inc.

Nadolsky, J. (1972). The effective use of vocational evaluation in rehabilitation. *Journal of Rehabilitation Counseling*, 3(6), 10-18.

Nadolsky, J. (1983). The development of vocational evaluation services. In Lassiter, Lassiter, Hardy, Underwood, & Cull (Eds.), **Vocational evaluation, work** *adjustment, and independent living for severely disabled people* (pp. 5-17). Springfield: Charles C. Thomas.

Reuss, E., Rawe, D., & Sundquist, A. (1958). Development of a physical capacities evaluation. *The American Journal of Occupational Therapy*, 12(1), 1-8; 14.

Sink, J., & King, W. (1983). Evaluation services in the private sector. *Vocational Evaluation and Work Adjustment Bulletin*, 16(3), 96-99.

Smith, G., Nelson, R., Sadoff, S., & Sadoff, M. (1989). Assessing sincerity of effort in maximal grip strength tests. American Journal of Physical Medicine and Rehabilitation, 68(2), 73-80.

Stevens, A. (1950). Work Evaluaiton in Rehabilitation. *Occupational Therapy Rehabilitation*, 29(3), 157-161.

Turner, J., & McCreary, C. (1983). Chronic low back pain: Predicting response to nonsurgical treatment. *Archives of Physical Medicine and Rehabilitation*, 64, 560-563.

Wegg, L. (1957). The role of the occupational therapist in vocational rehabilitation. *The American Journal of Occupational Therapy*, 11(4), 52-254.

Wilson, S. (1951). Integration of occupaitonal therapy in vocational rehabilitation. *The American Journal of Occupational Therapy*, 5(5), 198-217.

Worchel, P. (1938). Program for industrial therapy. *The American Journal of Occupational Therapy*, 17(2), 117-122.

Ziporyn, T. (1983). Disability evaluation: A fledging science? *Journal of the American Medical Association*, 250(7), 873-874; 879-880.

REPORT WRITING: PUTTING OUR PROFESSION ON THE LINE NOT BETWEEN THE LINES

by
Cameron Adams-Webber, BA(Hons.), M.Ed., CCRC, ARW

Abstract

This presentation is designed to assist Vocational Rehabilitation professionals to write concise assessment reports. Emphasis is placed on the form of the report, content to be included in the report, writing style, and the strength of statements that can be made by Vocational Rehabilitation professionals, about a client's employment potential. The focus of a vocational rehabilitation report should be the realistic employment alternatives that are suitable for the client to pursue in order to return to the competitive work force. Although subsections of the final report may stand alone to answer singular points of specific referral concern about the client's ability, all subsections of the report need to be logically related to the bottom line of the report: the jobs the client can do.

FORMAT

The format of a vocational evaluation report is thought to be best presented as a series of interrelated and logically sequenced sections. Each section should address an isolated and important aspect of the client's employability. Examples of sections that should be included in a comprehensive vocational evaluation report are: client demographics (age, education, injury condition, etc.), reason for referral and referral questions, client's transferrable employment skills/knowledge, chronological employment history, expressed and demonstrated client vocational interests, demonstrated work aptitudes, academic achievement potential, demonstrated work behaviours, and retraining potential.

For a client with a work-related injury, or an injury incurred during leisure activities that impairs the individuals ability to work, a comparison of the client's demonstrated employment aptitudes to those required of him/her to perform the essential demands of his/her most recently held employment is viewed to be a virtually mandatory section to include in the report. Suggestions of what barriers to employment significantly inhibit the client's prospects for returning to work such as aptitudinal, behavioural or tolerance-based barriers to working or transportation difficulties, as well as recommendations for further client services to consider are also encouraged for a more comprehensive evaluation report.

In arranging the format of your report, give consideration to some level of standardization of the number of pages in your report, the number of sections per page, the approximate number of words per section, sequencing of sections, use of graphs to illustrate client ability, and the use of checklists are recommended. Standardizing some aspects of the report can greatly enhance the efficiency of the evaluator when it comes time to write the service report and improve the efficacy of the report.

Standardizing the sequence of the sections included in the report permits control over depth and the scope of the report. The development of the ultimate sequence of the report sections should take into consideration the needs of the referral source, the needs of the evaluator, the rehabilitation legislation impacting the client group served and a little thought of consideration, "administrative ease". Administrative ease refers to the ability of the support staff to continuously produce reports of high finish quality without necessitating constant amendments to the format of the report during word processing.

By adhering to a range of words appropriate to a given subsection of the report, such as 50-100 words to describe the client's expressed and demonstrated vocational interests, the evaluator will inherently know when s/he is writing too much or too little for the section. As s/he gains experience with the report format, s/he will be better able to fix these parameters for each of the report sections.

It is not reasonable to expect that the optimal length of an evaluation report can be empirically determined. A report of a few pages can be too long if it is poorly written and a ten page report may not be enough for the referral agent if it is well written. Standardizing the number of sections in the report and the appropriate length of each section will essentially determine the total length of the report. It is most likely that the optimal length of the evaluation report will vary as a function of the writing skill of the evaluator, the demands of the referral agent and the average complexity of the client cases referred.

In keeping with the old adage that "a picture is worth a thousand words", consider the use of graphs and checklists to convey client performance data. Those data that have been found to be most amenable to being represented in graphic or checklist form are employment aptitude data and client behaviour data. Academic achievement potential data and employment interest data could also be displayed graphically. By graphically displaying some of the assessment data gathered more time can be taken to explain the implication of the data with respect to the employability of the client rather than describing the data, or how it was gathered.

Descriptions of the data rather than interpretive statements about the data are ultimately of less value to the referral agent or the client with respect to rehabilitation planning. Graphically displayed data with accompanying explanatory text will also allow an alternative form for the client and referral agent to assimilate the results of the vocational evaluation which can be quite beneficial.

CONTENT

Regardless of the final report format chosen, certain rules of content should be observed when writing a report. Report aesthetics may influence referral agents with respect to their perception of the professionalism of the service provided, but the content and quality of the report are more salient service considerations. A well written report is more likely to foster long term relations with a referral source than desktop publishing techniques alone will be able to foster.

Referral agents tend to be more interested in the vocational evaluators interpretations of client's assessment performance and the opinions of the evaluator with respect to the employment potential of the client, than their uninterpreted observations about the client. The days of simply documenting the observations made of the client in the context of the vocational evaluation and reporting raw data to describe client's evaluation performance are numbered. Observation-based reports and opinion-based reports represent distinct report content, each having an entirely different value for the referral source.

Observation-based reports simply state what an evaluator has done with a client to occupy his/her time during the evaluation period, and what those activities yielded in the way of test results. Such reports rely heavily on naming the various tests administered, describing the tests administered, and reporting the client's performance score in terms of percentiles, test accuracy, elapsed time, behaviour on task and the client's reported liking of the task. Unfortunately, observation-based reports do little to qualify the client with respect to employment, or quantify the client's performance in meaningful employment terms, such as his/her ability to work in the competitive workforce at a specific occupation.

Opinion-based reports are viewed by this author to be the sign of a profession and a professional service provider. What the evaluator thinks about the assessment scores attained by the client and the work related behaviours that have been demonstrated is what is really being asked for when a referral is made to an evaluation centre. The types of tests that have been administered to the client, the number of tests given, the reason for the tests being given are all influential factors in the evaluation process (evaluation planning), but are not necessarily reportable.

An evaluation report should give insight into the level of stability observed in the client's assessment performance, how the client's assessment results compare to known aspects of the client's work or educational history, the client's employment strengths, how the client's reported and/or documented employment or educational attainment impacts the his/he future employment potential. Perceived validity of client's assessment efforts, perceived barriers impacting the client's potential for resuming working should also be reported. Perhaps most importantly, the evaluator's opinion regarding the support that the assessment data gives to the employment recommendations made by the evaluator should be clear. Context! Context! Context! "Give me context or give me someone else's report".

By failing to interpret evaluation findings and develop professional opinions of a clients' employment potential, evaluators are essentially guilty of pretending that data is information. Data is not information until someone has given it meaning or presented it in a relevant context. Observations more often than not are just data, not information.

STYLE

Most professional vocational evaluators have concerns as to whether the reports that they write are read as thoroughly as they are written. We perceive that the referral agents skip to the end of the report to find out the jobs that are being recommended and then file the report. I suggest that if this is occurring, we are actually responsible for creating this trend, after all we decided to put the employment recommendations at the back of the report. Move the "bottom line" (job goals) to the front of the report. Make the employment recommendations the first report section presented. It has been found that by adopting this approach to report writing the referral agents develop questions as to why certain occupations have been recommended, and they look through the rest of the report to find answers to their questions. The remainder of the report then serves to support the vocational goals recommended in a logical sequence of information that the referral agent can browse.

When writing a report comprised of distinct sections, pay particular attention to the comments made in each of the sections. Ensure that issues addressed under a given section are pertinent to the title of the section. Each statement should stand independently and specifically enhance the referral agent's understanding of the client's performance relative to the employment issues addressed in that report section. If, within a given section, any references are to be made to any other part of the report, this should be limited to the section of the report dealing with the suitable alternative occupations that are recommended for the client to pursue.

Evaluators who find themselves referencing statements from one report section to another should decide which of the two subsections the statement belongs in. Evaluators who find themselves prefacing statements in the following fashion: as previously mentioned.... ; once again...; to reiterate.... should recognize that it is time to consider how concisely they have been writing the report.

A series of simple editorial strategies can be undertaken to improve an evaluators writing style. Use a consistent tense and person perspective throughout the report. It is recommended that a recent past tense, and a second person familiar writing style be used, e.g. "**Chris has shown herself to be capable of benefiting from retraining of a formal academic nature**". Objectifying the style of the report to the extent of saying, "**This client or this individual has shown herself to be capable of benefitting from retraining of a formal academic nature**" is a less engaging report writing style.

A second main rule of thumb to use to improve the style and the content of the report is for the evaluator to review the report and consciously strike out any word or series of words that are not necessary to making the point of the statement, e.g "**Chris has demonstrated that she is capable of benefiting from formal academic retraining**" or "**Chris has demonstrated the potential to benefit from formal retraining**". In com-parison to the initial phrasing of this statement, six words have been dropped from the statement without affecting the thought that it conveys. Over the entire length of a report, 100-200 words may be deleted from the report making the report significantly shorter and more concise.

Initially, this strategy will be most effective for new evaluators, or evaluators having difficulty writing concise reports, than it will be for an experienced report writer already wise to the ways of 'saving words'. Eventually, an evaluator employing this relatively simple editing technique will find his/her first draft of a report will be more concise and require less reworking before final print. The evaluator may also find fewer and fewer instances in which words will have to be "saved". Actually the evaluator might begin to save words mentally before committing them to paper, rather than physically as an editing activity.

Another factor contributing to the writing of a concise report is the thoroughness of result interpretation, understanding of referral questions, use of the referral information and the willingness of the evaluator to deal with any negative issues openly and candidly with the client in the context of counselling prior to the client leaving the evaluation program.

The exit interview is also a useful exercise for the evaluator to begin to consolidate his/her opinions regarding the client's evaluation performance, perceived barriers to resuming working, client reaction to the evaluator's recommendations, and the like. By discussing these issues with the client and/or the referral agent, the evaluator is essentially creating a first draft of the final report. The process of actually writing a report after an exit interview/staffing represents a further distillation of the employment issues discussed in the exit interview/ staffing, complete with client rebuttal.

STATEMENT

Although evaluators, by virtue of their academic credentials and related work experience, have earned the right to use "vocational evaluation-ese" it is suggested that they refrain from the temptation. Obviously, there will be times when a profession specific or technical term will have to be used in order to make our points, and of course, at these times we should use these terms. However, there often is less need of for the use of such jargon than evaluators think.

This concept raises the notion of **"writerly writing"** versus **"readerly writing"**. If an evaluation report is difficult to read or difficult to understand, will our referral sources try?! Effort has to be made to make sure evaluation reports are written to be understood. That means simplifying the terms of the report. Consider the times you may have had to read "writerly writing" in a professional journal and have felt the author really could have managed to make his/her point in a more direct and more easily understood manner. Are we likely to want to read another of his/her articles if more accessible works are available? Considered, from this perspective, even the most staunch supporters of professional's right to use professional language can concede the point raised. Our referral agents will likely prefer reports that written in a readerly writing style than a writerly writing style.

Consistency throughout the report is also of paramount importance. As evaluators often administer numerous tests and observe their clients over a number of days, the potential for reporting conflicting information is substantial. To avoid this pitfall, consider the following: score and interpret all tests administered, well in advance of the client leaving your centre; translate the score of each test given to a common scale, such as the aptitude factors of the Dictionary of Occupational Titles, or translate them to some universal language, such as average, high average, low average etc. Report only one comprehensive ability profile for the client based on his/her average stable evaluation scores. Critically evaluate any irreconcilable discrepancies and address them as inconsistencies when writing your report. Case notes are invaluable as reminders of content and context of unique client behaviours or task performances, and should not be overlooked at report writing time.

Referral sources finding unexplained discrepancies in an evaluator's report are likely to attribute the discrepancies to a lack of professional care in the preparation of the report. This may have negative consequences for the evaluation centre in terms of future referral. At all times, attempt to write the final within a reasonable time period of conducting the evaluation with the client. At busy centres with high client volume, a long interim period between client service and report writing may alter perceptions of the client. Also, attempt to complete your evaluation report in one sitting in order to minimize the potential for writing a disjointed inconsistent report.

It is suggested that the content of the final report should reflect the worker functions of the Diction-ary of Occupations. By using the codes of the worker qualification profile the evaluator can write to the issues of client's competitive employment aptitude levels, vocational interests, academic achievement potential (GED), temperaments, training needs (SVP), and transferrable skills. For those among us possessing appropriate medical credentials, the client's physical tolerances for working can commented on also. To write beyond this scope of the worker qualification profile is to risk straying from the purpose of vocational evaluation and the underlying science of our field, which relates to the determination of an individual's work potential.

By and large, the commercial evaluation products evaluators use have a multiplicity of applications, not all of which adequately serve the directed needs of the evaluator to quantify a client's employment potential.

The more direct the relationship is between the assessment tool used and the purpose of measuring work potential, the more confidence we can place in our use of that evaluation instrument to evaluate work potential. The more inference we have to rely on to relate the score a client attains on a given test to make statements of work potential, the less we should allow our professional opinions to be influenced by that tool in our final analysis of the individual's work potential. By way of an example consider the use of performance-based assessment tool compared to the use of a pencil and paper-based assessments of clerical ability. If the performance-based assessment required the client to perform the clerical activities at a computer terminal than the results will have a more direct bearing on the evaluator's opinion of the client's ability t perform actual clerical work that incorporates the use of a keyboard that if the client had performed an assessment of clerical comprehension involving recording answers to questions on a score sheet (clerical knowledge).

Vocational evaluators are encouraged to recognize that the assessment tools used in the course of an evaluation are a means and not an end with respect to determining a client's employability. Critically evaluate the content validity, and criterion validity, of the assessment tools you use with your clients as a first step to ensuring that strong professional statements and opinions can be rendered regarding the employment potential of the client.

SUMMARY

Ultimately our reports are a reflection of our professionalism. We write reports to clearly, concisely and fairly relate to our clients and our referral sources our opinions in regards to the employability of the client.

A relatively standardized report can facilitate new employees' report writing skills, as well as offer potential new sources of referral a reliable example of the work that can be expected of your centre. Where several distinct services are provided by an evaluation centre, several distinct but relatively standardized report formats should be developed. Legal vocational reports are quite distinct in premise, purpose and scope than reports generally required by more mainstream rehabilitation professionals. Therefore, these reports should be structured differently, which will in part reinforce their differences.

The length of the report should accommodate a concise writing style appropriate to the complexity of the client issues that are addressed. Certainly, no standard of report length can be easily applied across the field. It has been suggested that a report of 2.5 pages in length is empirically most desired by referral agents, this should only be regarded as a guideline and not as a standard. Sociological essay style reports need not run longer than this suggested length. Appropriately designed comprehensive evaluation reports will often exceed this bench mark, but not to their detriment.

Cameron Adams-Webber, BA(Hons), M.Ed., CCRC, ARW
Career Probe Inc.
474 Merden Rd.
Oakville, Ontario

CANADA L6K 3W4

Apples to Oranges: Comparing Work Hardening Outcomes

Lynne F. Murphy, OTR and Lynn R. Dowd, Ed.S., CVE

Abstract

This paper describes practices of measuring and reporting outcomes in work hardening. Inconsistencies among programs' outcome studies are identified. Common factors which influence program outcomes, and may result in misleading "success rate" statistics are identified. A protocol for outcome studies in work hardening is recommended.

Introduction

Due to an increase in the number of work hardening programs, competition for market share has escalated. This trend has led to greater emphasis on program quality and increased accountability for successful outcomes. Specific guidelines do not currently exist for the measurement of program quality in work hardening. Consequently, individual programs have established outcome studies particular to their needs. The lack of protocol or standards for outcome measurement in work hardening enables programs to portray themselves in the most positive light. The divergent ways in which these studies are conducted and reported results in meaningless success rate statistics. This also prevents accurate comparison of the outcomes of different work hardening programs.

Work Hardening Program Description

The Commission on Accreditation of Rehabilitation Facilities (CARF), is a private, not-for-profit organization that establishes standards of quality for services to people with disabilities. Services should be provided through integrated, coordinated and individualized programs for people served. CARF performs voluntary program reviews to assess quality of care.

Work hardening is one of the many programs reviewed by CARF. They describe the services in this way: "Work Hardening Programs, which are interdisciplinary in nature, use conditioning tasks that are graded to progressively improve the biomechanical, neuromuscular, cardiovascular/metabolic and psychosocial functioning of the person in conjunction with real or simulated work activities. Work hardening provides a transition between acute care and return to work while addressing the issues of productivity, safety, physical tolerances, and worker behaviors. Work hardening is a highly structured, goal-oriented, individualized treatment program designed to maximize the person's ability to return to work." (The Commission on Accreditation of Rehabilitation Facilities, 1991, p. 71).

Standards for Program Evaluation

CARF also ensures quality services through requirement of on-going program evaluation. The standards require the organization to identify the results of their services and the effects of the program on the persons served. It is also recommended that program evaluation measure outcomes following the delivery of services. (The Commission on Accreditation of Rehabilitation Facilities, 1991, p. 15).

It is beneficial to measure outcomes for a variety of reasons, not exclusively to meet CARF requirements. Measurement of outcomes allows for documentation of program quality and is useful if continued funding is dependent on quality of services. Measuring outcomes can also provide feedback to a program manager and staff on their effectiveness and stimulate operational improvement.

Most frequently, however, outcome information is used as a marketing tool for work hardening programs in today's increasingly competitive health care market. To maintain a consistent flow of referrals, a program should be able to communicate its effectiveness to referral sources. This may be one criteria used by the referral source for placing their clientele in a particular program. According to Young and Abbott, "the program should have a verifiable tract record of success. The program manager should be able to share return-to-work rates, the rate of re-injury of program graduates, and identify the types of patients for whom they have had particular success or difficulty. Programs that dance around the issue of outcome should be avoided." (1992, p. 24).

The Myth About Work Hardening Outcomes

Although differences exist in how outcomes are measured and reported, there appears to be a commonly accepted industry standard for success. According to one facility which was highlighted as "Facility of the Quarter" in the Spring 1992 Industrial Rehabilitation Quarterly, work hardening programs strive to achieve an 80% return-to-work rate. Other authors report that "you can expect that 80-90 percent of appropriately selected work hardening patients should return to work." (Young & Abbott, 1992, p. 25). Although this 80% success rate is widely regarded as the target for work hardening programs, there is no identifiable research base for this figure. No statistic is meaningful unless a protocol for work hardening outcome studies is established and applied extensively.

Possible Outcomes in Work Hardening

The delineation of outcomes provides the framework for data collection in outcome studies. Some classification systems have been developed to meet particular concerns or needs. However, they have not been accepted and used universally by work hardening programs.

CARF identifies six criteria for an individual to be discharged from work hardening. These include:

1) returning to work,
2) meeting program goals,
3) declining further services,
4) non-compliance with organizational policies,
5) limited potential to benefit, and
6) requiring further health care intervention. (The Commission on Accreditation of Rehabilitation Facilities, 1991, p. 73).

Because worker's compensation claimants are the predominant population served by work hardening programs, a vocationally focused hierarchy of priorities for returning injured workers to work may be applied. This hierarchy includes:

1) return to work
   A) same employer/same job,
   B) same employer/modified job,
   C) same employer/different job,
   D) different employer/same job,
   E) different employer/different job
2) retraining for new employment
3) other non-vocational outcome.

Ideally, combining these two systems addresses the full range of possible outcomes for work hardening participants with sufficient specificity to meet particular informational needs. This integration yields 9 outcome possibilities.

Vocational Outcomes include:

1) Return to work-same employer/same job,
2) Return to work-same employer/ modified job,
3) Return to work-same employer/different job,
4) Return to work-different employer/same job, and
5) Return to work-different employer/ different job.

Retraining for new employment would, in this list, be classified as return to work with a different employer in a different job, as that is ultimately what the injured worker is preparing to do.

Non-vocational outcomes include:

6) Declining further services,
7) Non-compliance with organizational policies,
8) Limited potential to benefit, and
9) Requiring further health care intervention.

Although final reporting of successful outcomes need not be this specific, gathering this information may be valuable to a program in operational improvement.

Factors Influencing Outcome

The outcome studies reported in Industrial Rehabilitation Quarterly's Facility of the Quarter for 1990 through 1992 and the programs presented in Work Hardening: State of the Art (Jacobs & Isernhagen, 1989), were reviewed to gather information on how work hardening programs were gathering and reporting information on outcomes. It is clear that many work hardening programs do not measure outcomes at all or do so in a one-time study rather than in on-going data collection process. The programs that presented outcome information of any type were reviewed. From these, a number of factors were identified which significantly influence the outcome and reported success rates of the programs. These include:

1. Screening/Admission Criteria,
2. Selective Sampling/Criteria for Study Inclusion,
3. Definition of Successful Outcome,
4. Time Frame for Follow-up,
5. Duration of study, and
6. Reporting Method.

Screening/Admission Criteria

Screening to determine an individual's appropriateness for the work hardening program takes place prior to participation. In fact, CARF (1991, p. 33) requires that entrance criteria be clearly written. Programs thus determine their own criteria for admission. In most situations, it is desirable for programs to adapt admission criteria to their unique needs. However, programs may develop criteria which will limit entrance to only those candidates who are viewed to be likely to succeed.

Artificial criteria, when applied, may boost success rates but can exclude participation of individuals who may benefit from the program. For example, a program may admit only individuals who are within a year post-injury, thereby excluding the participation of those individuals who have had a protracted recovery/rehabilitation period and who may have more obstacles to overcome to successfully return to work. A measure of motivational attributes may be used, denying entrance to individuals who score below a particular criterion. This presumably would enable a program to serve only enthusiastic participants. Another artificial screening practice is to deny admission to those individuals with pending litigation. This presumably eliminates secondary gain from affecting performance, motivation, and/or return to work.

Selective Sampling/Criteria for Study Inclusion

Because of the numerous possible outcomes for participants in work hardening programs, the question of who is to be included in the outcome study arises. Programs which include all individuals, including those who were not compliant and those who required further medical intervention, will likely obtain success rates that appear quite low. Williams and Fidanza cite that in work hardening outcome studies, "dropouts are typically not included in the calculations, resulting in inflated estimates of the efficacy of such programs." (1990, p. 70). Although this is true, programs should not be held accountable for outcomes over which they had little or no control.

Programs may include a subset of the total participants for inclusion within their outcome study. For example, a program may track only those participants who were discharged to return to work with the same employer. This practice enhances success in that program participants who do not have a job/employer to return to and are job seeking (i.e. not yet employed) are not considered in the outcome study. Using other subsets of the total participant population in the outcome study may provide similar inflated estimates of success.

Definition of Successful Outcome

Work hardening as a service is designed to "maximize a client's ability to work" (The Commission on Accreditation of Rehabilitation Facilities, 1991, p. 71) and in fact, most rehabilitation programs with a vocational emphasis consider re-entering the work force to be the primary objective. The work hardening programs reviewed often had broader view of what could be considered a "success". Beyond work, other outcomes defined as successful included participation in vocational training, discontinuance of medical/rehabilitation care, and settlement. These outcomes do not address the fundamental issue as to whether the work hardening program resulted in any improvement in the functional skills of the participant. Settlement is a positive outcome from a cost containment standpoint and may be a desired statistic to report to insurance carriers, but should not be considered a success of the program.

Time Frame for Follow-up

How soon after a participant is discharged should follow-up occur, how frequently, and at what intervals? This is a question that is addressed in many different ways by the work hardening programs reviewed. The timing of the follow-up after discharge ranged from 1 month to six months. Short time frames are more likely to demonstrate same employer/same job successes. Longer time frames enable job seeking participants to secure employment, but risk other factors such as layoffs, etc. affecting outcomes. Although most programs identified only one time frame for follow-up, some included two or three.

Duration of Study

Most often the duration of the study was not reported. Some studies reported a month and year, but it was unclear as to what time frame that date indicated. It could represent total program success up to that point in time, the year preceding that date, or only the month indicated. Any study requires a sufficient sample and it is unlikely that 1 month would be truly representative of the total population served. Yearly outcomes were reported by some programs. This time-frame is sufficiently long to gain a good sample and year-to-year comparisons can highlight program changes or improvements over time.

Although the program's total track record may be of interest, program success at the present time is of greatest concern. The parties involved want to know how likely it is for this participant to benefit from the program at this time.

Reporting Method

Most often, too little descriptive information was included in the reporting of the outcome study. Some studies, upon closer review, did address critical elements (the criteria for study inclusion, definition of success, time frame, duration of the study, etc.) but failed to report them in their statement of successful outcome.

Particulars of the population served were occasionally included, but were generally reported to explain what on the surface appeared to be a low success rate. Inclusion of this information is helpful for referral sources to determine who is an appropriate candidate for the program.

Vague wording (e.g. About 80% return to work) served to question accuracy or credibility of the outcome study. One program reported a return to work rate in the 90th percentile. This was misleading in that it implied that there were national norms for work hardening programs, which do not currently exist.

Recommended Protocol for Outcome Studies

Due to the many discrepancies in outcome studies, the following protocol is recommended to allow for comparison of programs and to ensure meaningful outcome statistics and reporting methods.

Screening/Admission Criteria

The only acceptable admission or screening criteria include the following: 1) the participant is medically stable, and 2) a vocational goal has been targeted. This eliminates the application of artificial criteria which may inflate program success rates. Programs must accept all patients who may benefit from work hardening. If the primary goal is not vocational, work hardening may not be the most appropriate program for that individual. For example, a work conditioning program may be more appropriate for individuals without an identified job.

Criteria for Study Inclusion

Once participants complete a work hardening program, specific criteria also need to be established for who will be included in the outcome study. A participant discharged with ANY vocational goal should be included, regardless of whether of the specific job or employer. If the discharge recommendation is related to any vocational outcome, attempts should be made to contact that individual for the outcome study to accurately represent the efficacy of the program.

Other discharge recommendations or outcomes may also be tracked, for example other medical intervention or not working due to injury. Although this is valuable information for program evaluation, it is not necessary to include in the outcome reporting if those participants were not discharged with a vocational goal.

Definition of Successful Outcome

In defining what constitutes a successful outcome, it is necessary to return to the goal identified by CARF as well as to the broad goal embraced by all vocational rehabilitation programs - work. For this protocol, two primary categories are identified. The first is that the previous participant be currently employed. The other acceptable outcome for success would be the lack of employment due to reasons other than the injury, and demonstration of the ability to work by maintaining employment for a pre-determined portion of the follow-up period. For example, a worker may be contacted at 6 months following discharge who was expected to return to the same job/same employer. He reports that he worked for 3 months, but was laid off when business decreased for his employer. This case would be included as a successful outcome, since he had been able to sustain employment for half of the follow-up period and was not working currently due to factors other than the injury for which he was treated.

Time Frames for Follow-up

Time frames for follow-up should be short-term as well as long-term. Recommendation for short-term follow-up is 1 month, as this allows adequate time for release by treating physician and arrangements to be made with an employer for return to work conditions. Long-term follow-up should take place at 6 months. This should allow sufficient time for job seeking or resolution of complex employment issues. The 6 month time frame is adequate to demonstrate that the worker is able to sustain employment.

Duration of Study

The recommended duration of the study is 1 year, which may be either fiscal or chronological. The beginning and ending dates of the study may be determined based on the needs of the program. The 1 year duration eliminates fluctuations based on seasonal variation in referrals and employment. In addition, this allows for an adequate sample size to be addressed by the study.

Reporting Method

Reporting of outcomes should include clearly stated criteria. The population should be defined, including number of persons served and demographic data that identifies any special characteristics of the population. Time frame for follow-up, as well as duration of the study, should be represented. Criteria for study inclusion and the definition of successful outcome must be explicit, in order for the quoted success rate percentage to be credible.

The following reporting method is recommended: Of (number) injured workers participating in (program name) during (year), (percentage) or (number) were discharged with a vocational goal. Of these individuals, (number) were able to be contacted at 1 month post discharge and (percentage) were working. (Number) were able to be contacted at 6 months post discharge and (percentage) were working.

The following illustrates how this method is applied. Of 213 injured workers participating in ABC Work Hardening Program during fiscal year 1992, 81% or 173 were discharged with a vocational goal. Of these individuals, 168 were able to be contacted at 1 month post discharge and 78% were working. At 6 months post discharge, 166 individuals were contacted and 84% were working. ABC Work Hardening Program's participants during FY 1992 had hand injuries (74%), back injuries (22%) and lower extremity injuries (4%). Average time between injury and program initiation was 9 months.

Summary

In order to accurately compare work hardening programs, consistency is crucial in conducting and reporting outcome studies. It is imperative that clear, concise statements explaining success rates accompany the outcome percentage. A number alone is insufficient. Following the recommended protocol for outcome studies will promote consistency and enable meaningful program comparisons for referral sources and consumers.

Beyond subscribing to this basic protocol for determining success rates, programs need to develop a comprehensive approach to program evaluation. Ultimately, this leads to improvement in individual service delivery and advancements in the field of work hardening.

References

Commission on Accreditation of Rehabilitation Facilities. (1991). *Standards manual for organizations serving people with disabilities*. Tucson, AZ: Author.

Ellexson, M. (1988). Environmental enhancements for work hardening. *Industrial Rehabilitation Quarterly*, *1*(1), 14-15.

Farrell, G. P., Knowlton, S. C., & Taylor, M. C. (1989). Second chance: Rehabilitating the American worker. *Industrial Rehabilitation Quarterly*, *2*(2), 1-32.

Hazard, R. G., Fenwick, J. W., Kalish, S. M., Redmond, J., Reeves, V., Reid, S., & Frymoyer, J. W. (1989). Functional restoration with behavioral support: A one-year prospective study of patients with chronic low-back pain. In Blankenship, K.L. *Industrial Rehabilitation I: A Seminar Syllabus*. American Therapeutics, Inc.

Kuhn, M. P., & Kneidel, T. W. (1990). Is work hardening effective? *Industrial Rehabilitation Quarterly*, *3*(2), 1-45.

Mayer, T. G., Gatchel, R. J., Mayer, H., Kishino, N. D., Keeley, J., & Mooney, V. (1987). A prospective two-year study of functional restoration in industrial low back injury. *Journal of the American Medical Association*, *258*(13), 1763-1767.

Ogden-Niemeyer, L., & Jacobs, K. (1989). *Work hardening state of the art*. Thorofare, NJ: Slack, Inc.

Peters, P. (1990). Successful return to work following a musculoskeletal injury. *American Association of Occupational Health Nursing Journal*, *38*(6), 264-269.

Stanford, T. (1992). The beauty of work hardening: One rehab specialist reflects on the rewards of her job. Industrial Rehabilitation Quarterly, 5(1), 10-11.

Williams, J. M., & Fidanza, N. S. (1990). Ensuring the success of industrial rehabilitation programs: The role of the rehabilitation counselor in return to work. NARPPS Journal and News, 5(5), 67-70.

Young, D. C., & Abbott, D. S. (1992, January/February). Going through the motions: Work hardening programs return injured employees to the worksite. Continuing Care, 22-25.

Authors

Lynne F. Murphy, OTR and Lynn R. Dowd, Ed.S., CVE
Curtis Work Rehabilitation Services
The Union Memorial Hospital
201 East University Parkway
Baltimore, Maryland 21218

Project Independence: Relying on Assessment Techniques for Program Success

Ronald J. Spitznagel, Ed.D., CVE, CRC
University of Florida

Abstract

Project Independence in the State of Florida has as its goal to return Aid to Families with Dependent Children (AFDC) recipients to employment and self-sufficiency, The original program plan included some basic classroom situations mixed with a brief career exploration. There was no assessment component on which to base solid decision-making for the choice of a career. Initial reports of positive outcomes was much less than anticipated. A reformation of the program included an assessment/evaluation portion which was comprised of limited testing suited to the particular geographic area. Preliminary data indicate that persons who have been tested have obtained more positive outcomes than those previously untested. Results also tentatively indicate that the more depth the testing program has, the better the training opportunities as well as better paying jobs result.

Ronald Spitznagel is Assistant Professor in the Department of Rehabilitation Counseling (College of Health Related Professions) at the University of Florida. He is also coordinator of the Vocational Consultation Service in the department.

Introduction

In his State of the Union Address in January 1992, President Bush said that "welfare was never meant to be a life style..." He wanted to look long and hard at any program that discourages ambition and self-sufficiency.

But, the social and economic welfare system reflect the values of society; poverty is not an individual and private situation but a social concern. Solutions and remedies for this disparity have been established through customs and common law. In addition, charity and philanthropy give a supplemental boost to the current laws. Examples from the ancient Greeks and Romans indicate that custodial institutions, pensions, and distribution of grain for the needy existed.

Important in the history of American philanthropy and social welfare are the ancient Jewish doctrines that teach the duty of giving. Christianity's emphasis upon good deeds, charity, and loving thy neighbor as thyself, among other approaches, were the seeds for cultivating the relief policies and programs in the New World after the English Parliament shipped convicts, beggars, orphans, the unemployed, and any undesirable to the colonies to face even harsher conditions and hardships.

Initially, however, the philosophy in the New World was rugged individualism and a laissez-faire attitude. There was dissatisfaction with "poor laws" and tax money spent on paupers. These types of laws and spending were believed to lower the standard of living for the industrious workers. Except for those in institutions, many believed poverty was an individual moral matter and people on public assistance ought to have a lower standard of living than the lowest paid self-supporting laborer and that life ought to be made so miserable for these types that they would rather work than accept public assistance. Over time, changes in the social welfare system occurred with major happenings taking place between the eighteenth and twentieth centuries.

During the 1890's depression the U.S. Federal government created public worker welfare jobs. In 1932 President

Hoover signed the Emergency Relief and Construction Act to furnish relief through work to needy and distressed people to relieve hardships resulting from high unemployment.

In 1935 President Roosevelt created a committee to develop a program to safeguard against "misfortunes" and the Social Security Act was created. Through two lines of defense, contributory social insurance and public assistance, the Social Security Act created a system for old age pensions, the needy old-aged, unemployment insurance, public assistance for dependent mothers with children, crippled children, plus a system for local public health work. Today, these basic programs still exist and many have been expanded.

Aid to Families With Dependent Children (AFDC) provides direct aid to eligible families to help them afford food, clothing, and a place to live. Government documents indicate the number of families participating in AFDC averaged 3.8 million or 10.8 million people monthly in 1989 and rising to 4.4 million families or 12.6 million individuals in September of 1991 and a record number of 13.4 million people in December of 1991. The cost to the Federal Government has risen from $13.5 billion in 1991 to an estimated $15.1 billion in 1992. From July 1989 to November 1991 Florida AFDC caseloads had the third largest caseload growth in the nation. Led only by New Hampshire with a 99.1% increase and Arizona with a 64.1% increase, Florida's increase was 63%. Nearly 86% of AFDC recipients also receive Food Stamps. Both programs are administered by the states which set eligibility requirements including strict limits on income and assets and requiring that their children be in the family.

The AFDC program is a federal-state means-tested income support program under which the state provides monthly cash grants to "needy" families with "dependent" children and the federal government reimburses the states for 50% to 80% of their program costs. All states have participated since the program began in 1935.

Over the last 20 years there has been a large increase in single-parent families and Federal Law requires caretaker relatives to cooperate in collecting child support and that certain eligible AFDC claimants participate in programs leading to obtaining a job as a condition of eligibility. Federal Law requires states to establish work programs for AFDC participants.

Review of Literature

Many studies have been undertaken to attempt to uncover the hypothesized differences in potential ability and achievement among others between those who take charge for themselves and those who depend on society for needed assistance (Gladstone & Trimmer, 1985; Walters, 1981). It would appear from a cursory glance at the economic history of our country that it is reasonable to assume that there are not sufficient resources within government constraints with which to provide a satisfactory standard of living for everyone (Walters, 1981). To improve the economy without improving the lot of the people who depend on society is counterproductive since a certain segment of the population will still continue to be a drain on the economy. Instead, the proper assessment of these persons to discover their true potential to survive and work in society is almost a **sine qua non** rather than allowing them to expend limited societal resources which are not always available.

It has been shown that a person who is educated and/or trained in an area appropriate to that person's abilities, interests, personality, and so on will succeed in a work situation a greater majority of the time (Roessler & Bolton, 1985). Thus, education/training ought to become a necessary part of the AFDC formula. Vocational assessment/evaluation is the legitimate process which will assist in documenting the necessary steps to both obtain and maintain successful employment.

Inherent in the process to direct a subsidized individual into the mainstream of working society is the fact that there are many barriers to employment. And these are mostly unrelated to vocational skills and attitudes of the person as such. Some of these barriers would include, lack of child car; lack of proper transportation and nearby transportation; lack of certificates, references, and identifiable work history; social and other types of conflicts arising outside the work place spilling over into it; criminal records; legal problems; language; alcohol and drug abuse; and emotional-personal problems (Miller & Oetting, 1977). The vocational assessment/evaluation will also assist in ferreting out those barriers to be addressed prior to initiating a job search.

Another key question brought up is "Is the person motivated?" This is a very disturbing but insightful question. What is called lack of motivation on the part of a certain group of people may be nothing more than a psychological predisposition towards a lack of success. Poverty, poor self-image, rampant disease, lack of education and so on may well perpetuate this myth of lack of motivation (Cull & Hardy, 1973). It may also be linked to frustration of not being able to "pull oneself up by the bootstraps" however often one has tried. Business takes a rest and unemployment takes a deep dip. This segment of the population (AFDC recipients) which was at risk before is now in dire straights since the uneducated and unskilled are generally the first to be let go in the time of an economic downturn, a euphemistic term for depression.

From several studies in the late '70s early '80s levels of the G factor on the G.A.T.B., the BOLT GED, and the JVIS were seen to be appropriate as benchmarks in counseling individuals who request training prior to work (Gladstone & Trimmer, 1985; Jackson, 1977). These test results, and, it may follow that other test results may perform in the same fashion, provide a good starting point for obtaining viable vocational information from the client. From the test results, self-reported information from the client, and observations during the evaluation the evaluator can readily point out and assist the client in identifying strengths and weaknesses. From this step the client ought to be able to focus in on conclusions regarding attitudes, aptitudes, and other basic skills in relationship to an ultimate vocational outcome.

Incentive Programs

The Family Support Act of 1988 (P.L. 100-485, 102 Stat. 2343) changed the federal name from WIN to JOBS and allows states to create another name for its program, but states must conform their work programs to federal rules. In Florida the JOBS program has been named Project Independence.

The State of Florida implemented this AFDC employment training program and with the Department of Health and Rehabilitative Services (DHRS) administering the program until recently when the Department of Labor and Employment Security (DLES) took over the charge. The primary purpose of the program is to provide an opportunity for a portion of public assistance recipients to become economically self-supporting, productive members of society through education/training and job placement.

Effective October 1991, the Florida Employment Opportunity Act (FEOA) was revised in F.S. 409.029 to allow the department to prioritize and disenroll participants based on target groups and assessment status where funds were insufficient to serve all participants. This requires careful selection of participants presumably through vocational assessment/evaluation techniques when investing state and federal dollars.

Under the FEOA as outlined in the Florida statutes, "to accomplish self-supporting goals, a carefully integrated planned and coordinated system of employment - related services of training and supportive services consistent with the needs of the participant, that allows informed choices, certain principles must be followed."

The employment and training plan shall include but not be limited to the following: initial job search, supervised job search, job club workshops, job development, referral and placement, employment counseling, job training skills, work experience, employment preparation, vocational training, college education, and remedial education. Remedial education shall include adult functional or basic educational, high school completion or general equivalency diploma instruction.

Additionally, case management shall include development with the participant of an employment plan providing assistance in obtaining needed assessments and access to job training and education.

Assessments include a description of barriers to the employment goal of the participant, the participant's educational history, present competency level, occupational interest, and other participant characteristics. As determined, such as physical capacities, family responsibilities, place of residence, support services, etc. are also to be included in the overall assessment (F.S. 409.209, 1991).

In September 1991, The General Accounting Office (GAO) issued a report on the states' JOBS implementation which showed that about half of the states reported the need for education services which exceeded the supply and two-thirds of the states reported that the need for child care support and transportation services also exceeded the supply for those in approved education and training activities.

In addition to shortage of resources in the State of Florida, it is very time consuming as well as expensive to move a person from dependence on public support to economic self-sufficiency (a level of income defined by family size which is adequate to eliminate a family's need for public assistance).

Through the years Florida, as well as other states, has provided programs such as Work Incentive Program (WIN), Comprehensive Employment and Training Act (CETA) and currently the Job Training Placement Act (JTPA) and Project Independence. Experience has taught that a successful model for achieving economic self-sufficiency requires, before any investment in education and/or training, reliable and valid vocational assessments/evaluations of the individual in order to select the most cost-effective and appropriate education and/or training programs for selected participants who, then, can be prepared and returned to gainful employment again or for the first time.

PI in Gainesville and Lake City

Project Independence in the Gainesville area while keeping to the tenets of the Florida Law is, however, interested in counseling their clients into the more lucrative technological jobs currently available in the local labor market. The process includes the following. Only AFDC recipients qualify. A letter is mailed to the AFDC recipient outlining the PI program and alerting them to an orientation session. This is mandatory only if the child or children in the AFDC family are three years old or older. Two letters are sent to the individual. A "no response" will mean that AFDC can be lost for a time. If non-compliance continues then additional AFDC payments will be lost to the point that the children will be taken away. It has been found that many who have children below the stated age level also wish to participate but they are classed as volunteers and put on a waiting list. Three percent of the persons on PI in Gainesville are males but this percentage is growing. During the orientation a complete outline of the program is given. Each person is treated as an individual and there are many services which may apply for one but not to another. Some of the services include transportation, books, tuition, uniforms (work or training), eyeglasses, dentures, tires, state board fees, assessment, and the list can continue. Only the imagination and creativity of the case worker can be the limiting factor.

It is interesting to note that when Project Independence initially started in 1987 in the State of Florida, contrary to past experience, the assessment portion of the current PI program was not in the mandated process. The initial phase consisted generally of minimal vocational counseling quickly followed by mandated job search by the person. This process did not engender the outcomes which were anticipated. The client oftentimes had to take whatever job was offered or which vaguely seemed to interest the individual. It was only after two years of poor outcomes that they realized another step was needed. That the evaluation step was considered useful was known but was not included at the time because they wanted a more streamlined program. (Vocational assessment and/or evaluation was, after all, used with success in other programs prior to this one.) But vocational assessment and/or evaluation, although currently limited in scope, became part of the PI program and the placement rate more than doubled and maintenance of the job was almost tripled!

The type of testing given seems to depend upon the area and the resources available. For example, in the Lake City area, the WRAT-R and an interest test are given. In Gainesville, the T.A.B.E., S.A.G.E., and/or S.I.G.I. are routinely administered. In Lake City it seems that the testing program is very superficial while the testing program in Gainesville is more substantial. While both evaluation programs could be expanded current progress in this direction is slow. With the present positive outcomes, the need for additional instrumentation in the evaluation process are not warranted according to officials of the DLES.

The reason for the study was to determine if the initiation of vocational testing had any effect upon the outcomes experienced by the group.

Methods

The supervisors of the programs in Lake City and Gainesville were both contacted and asked to participate in this research. In the Lake City area, the request stimulated the beginning of the testing program with the introduction of the WRAT-R and the Reading Free Vocational Interest Inventory being given to each AFDC recipient who came to the orientation session referenced above. In Gainesville the testing process was already under way with most clients receiving the S.A.G.E. which included interest, achievement, and aptitude tests. There were 86 from Lake City included in the study and 72 from Gainesville. Composition from Lake City was 76 female and 13 male. Approximately 44% were minority. The average grade completed was 10.5 for males and 10.6 for females. In Gainesville, 5 percent of the group were male and 38.8% were minority status. In this group the average grade completed was unavailable.

In Figure 1 the results of the WRAT-R are given which indicate some difference between the male and female scores in primarily spelling with some very slight differences in the other two areas. Results of the RFVII seem to reflect the current trend in the area of testing.

Figure 1. Results of Lake City testing.

By Grade Level

WRAT-R:	Reading	Spelling	Arithmetic
Males	7.76	5.92	7.46
Females	8.14	7.14	7.29

By Choice

RFVII:	1st	2nd	3rd
Males	Auto Mechanic	Personal Service	Building Trades
Females	Patient Care	Clerical	Personal Service

Figure 2. Results of Gainesville Testing

S.A.G.E.

By Achievement Level

	Reasoning	Math	Language
Males	7.0	6.7	8.0
Females	8.5	6.59	7.99

By Interest Areas

	1st	2nd	3rd
Males	Leading/ Influencing	Art	Science Mechanic
Females	Humanitarian	Business Detail	Leading/ Influence

By Aptitude

	Male	Female
General	20.5	26.8
Verbal	17.7	20.5
Numerical	23.7	24.1
Spatial	6.5	6.7
Form Perc	42.5	40.7
Clerical	90.2	101.6
Motor Coor	39.2	27.5
Finger Dex	14.7	16.4
Manual Dex	10.7	11.1
Eye-Hand-Foot	15.0	14.3
Color Disc	28.5	28.6

In Figure 2 the results of the Gainesville group who took the S.A.G.E. indicate some difference in achievement level in favor of the female in the reasoning area. There is a slight difference in favor of the male in the spelling and no difference in the arithmetic level achievement scores. In aptitudes the females scored higher on the average in the G, V, Q, and F areas and the same in N, S, M, and C. The males scored higher generally in P, K, and E. In the interest survey current stereotypical trends are seen in the female results with generally the same in the male results with the one exception as noted in the results. It should be noted that these comparisons are tenuous since the ratio of female to male in this sample is so large.

Results

As already noted the number of males included in each portion of this study is so low that any generalizations cannot be made which will stand the test. The important factor is that some testing has taken place which had not been accomplished before in this program.

The results of the WRAT-R indicate that the females performed slightly better in reading (word recognition) and slightly worse than the males in arithmetic. The females scored much better in spelling. The one surprising factor is that the males did not perform as well in the arithmetic section. For the Lake City group the females seemed to be interested in occupational categories which have long been associated with the female. The same was true for the options selected by the males.

For the Gainesville group the females scored better in reasoning by a wide margin while there was almost even scores in both the math and language with a slight edge in math for the males. The interest results were a departure from the traditional for the males with Art being the second highest interest overall. Otherwise, the interest patterns for both males and females followed the usual trend. The results of the aptitudes indicated that the females scored better in the General, Verbal, Finger, and Clerical and slightly better in Numerical, Spatial, Manual, and Color Discrimination. The males scored better in Form Perception, Motor Coordination, and Eye-Hand-Foot Coordination.

Discussion

The individuals in Lake City generally select jobs which are lower in skill level than the individuals who are working with PI in Gainesville. While some of the participants in Lake City do enter vocational/technical training programs the incidence is far less than the number of those entering such programs in the Gainesville area. Those who do enter the training programs in Gainesville seem to embark upon more technical programs which would lead to more higher paying jobs and ones which carry a little more esteem with them. The individuals served by the Gainesville PI office show that they receive higher wages on the average than those out of the Lake City area. This does not necessarily mean that the testing program is the direct cause of this. It could be that the higher paying jobs in the technological area for which these individuals are being trained are more in abundance in the Gainesville area.

The results from this program in Gainesville have been short of phenomenal. Once the individual has been vocationally evaluated they are placed primarily in a training/educational program initially. Only two years of school are paid so the emphasis seems to be on training programs. However, the PI personnel do not discourage the individual recipient from deciding to embark on a program which is longer than two years. For example, one person is currently enrolled in an electrical engineering program at the University of Florida. Programs such as nursing, cardiopulmonary technician, medical transcriber, EMT, correctional officer, zoo program, dental hygienist, nuclear medicine technician all are strongly represented with PI clients. In the recent year the following job types with numbers have been graduated to full time work in the local labor market: 7 nurses, 2 CPT, 4 medical transcribers, 6 EMTs, 12 correctional officers, 2 zoo attendants, a dental hygienist, and a nuclear medicine technician. In addition, one law student and one chemical engineering student are in the process of working toward a more advanced degree. Dropouts from the program are not numerous but when they do drop out many obtain jobs in areas which are well paying jobs with good benefits such as with Southern Bell. In the last quarter of 1992, 341 were placed out the Gainesville office. This is about twice as many as one would expect during any given quarter. Reasons for the upswing could have been the Christmas seasons, excitement about the new President and his policies. During most quarters of the year approximately 150 PI individuals are placed. There is a 90 day follow-up to help the person out if there are any difficulties. There are attritions but these individuals appear to gravitate to other jobs in the labor market for equal or better pay.

Conclusions

In reviewing Program Independence it can readily be seen that many more positive outcomes occurred with the inception of the testing program. A direct causal relationship cannot be established due to the testing program. While the testing program is a limited one, the recipients of AFDC are at least coming to terms with an important aspect in their lives, i.e., determining what their interests are in a logical and ordered fashion. The vocational exploration and counseling obtained by the recipients is not just relegated to the paper-pencil tests and/or work samples administered. Rather, the evaluator who administers the test and the counselor both work in tandem to create an atmosphere for the individual to explore realistically the local labor market. This is a beginning in a process long overdue in the welfare program.

REFERENCES

Gladstone, L., & Trimmer, H.W. (1985). Factors predicting success in training and employment for WIN clients in southern Nevada. Journal of Employment Counseling, 22, 59 - 69.

Cull, J.G., & Hardy, R.E. (1973). The big welfare mess: Public assistance and rehabilitation approaches. Springfield, Il: Thomas.

Florida Statutes, 409.029(11).

Jackson, D.N. (1977). Jackson vocational interest survey manual. Ontario, Canada: Research Psychologists Press.

Miller, C.D., & Oetting, G. (1977). Barriers to employment and the disadvantaged. Personnel and Guidance Journal, 56, 89 - 93.

Roessler, R., & Bolton, B. (1985). Vocational interests and occupations of rehabilitation clients. Vocational Evaluation and Work Adjustment Bulletin, 18(1), 16 - 20.

Walters, W.W. (1981). The poor and lifeboat ethics. Journal of Employment Counseling, 18, 50 - 52.

Ronald J. Spitznagel, Ed.D., CRC, CVE
University of Florida
Dept. of Rehab Counseling
Box 100175, Health Science Ctr
Gainesville, FL 32610-0175

Facilitating Self-determination With Vocational Assessment in Multi-cultural Settings

Robert L. Akridge, Ed.D. and Roy C. Farley, Ed.D.

Abstract

An overview was presented of how the rehabilitation environment is changing. This change was related to changes in the way the delivery of services are conceptualized. A new paradigm emphasizing independent living, career development, and integration into the community was outlined. The development and experimental evaluation of two career development interventions that represent the proposed service delivery model was also presented.

Introduction

The purpose of this program is to present a brief overview of how the rehabilitation environment is changing and to review two representative examples of vocational assessment interventions that are consistent with these changes. The results of experimental evaluations of the interventions will also be presented.

Developments in disability legislation, professional practices, consumer involvement, and an increased awareness of culture and appreciation of cultural diversity are changing traditional conceptions of rehabilitation. Concepts such as empowerment, disability rights, independent living, and career development place disability services in a developmental framework rather than a medical or remedial framework. Because of these changes, the service provider role incorporates more consultation, advocacy, marketing, and community development activity and less gate keeping, eligibility determination and other case management activity. Such massive change may be referred to as a paradigm shift (Lucas, 1985).

Vocational Assessment and Self-determination

The speciality area in rehabilitation, vocational evaluation, is in a rapid state of change because of a major paradigm shift in disability-related services of which it is a part (Akridge, 1985; Akridge, 1991; Chubon, 1992; Condeluci, 1991). The activity of vocational evaluation has come under increasing criticism during the past several years (Stubbins, 1982; Vash, 1984; Moriarty, Walls, & McLaughlin, 1988). Consumers of rehabilitation services and their advocates have often seen the process as mostly a gate keeping function which tended to exclude people most in need of services—i.e., those with the most severe disabilities and those from culturally diverse backgrounds (Alston & Mngadi, 1992. Various vocational evaluation processes (e.g., tests, simulated work, medical and psychological reports) were used to establish (1) the presence of a physical or mental disability and (2) that the disability interfered with employment. If sufficiently deviant from normal, these indicators established the first and second criteria of eligibility. The third eligibility criteria required a high probability of the individual becoming employed after a proposed rehabilitation intervention. This raised the question whether any available intervention was feasible? Being assessed too deviant on these eligibility criteria lowered the probability of the available intervention being successful. Being too deviant, i.e., being too much in need of whatever qualified the person for services, could disqualify the person according to the third criteria.

An often stated goal of vocational evaluation was to establish the individual's vocational potential. As the disability service delivery system evolved a more comprehensive continuum of services (e.g., independent living centers, supported employment, social skills training, transition programs, Projects With Industry), concepts like "vocational potential," and "employability" and their related operations assumed a less central role in the rehabilitation process. The concept of services being prescribed as a result of vocational evaluations, even to improve the person's employability or actualize the person's employment potential, became less widely accepted. The emphasis now is on empowering the individual with a disability to advance her or his independent living and career development. The basic strategy is providing skills training (in all areas needed for community integration) and improving family and community support systems. These services are marketed to people with disabilities, employers, and the community at large—not prescribed (Patterson & Marks, 1992; Akridge & Greenwood, 1990).

In actuality, much of the activity that goes on in the name of vocational evaluation and work adjustment might more accurately be called career development because the speciality area has tended to employ a developmental perspective (Bodenhamer, Mulroy, & McGill, 1988; Schloss & Schloss, 1982). By placing its assessment capacity at the service of persons with disabilities, the speciality area makes an enormous contribution to the person's development of her or his career, in addition to providing a data base for consulting with other professional members of the rehabilitation team. Career development involves an ongoing assessment of present performance, utilizing all available resources including professional consultation, while learning to improve one's adaptive skills and support systems. It is from this perspective that rehabilitation services need to be delivered in order to be empowering and to be consistent with the 1993 Amendments to the Rehabilitation Act and the Americans With Disabilities Act of 1992. Rehabilitation service providers, including those in activities called vocational evaluation or career development, will need to improve their skills for working with people with more severe disabilities and particularly those from culturally diverse backgrounds.

Vocational Assessment and Cultural Competence

People from backgrounds other than the cultural mainstream (majority group culture) are underserved by the present disability service delivery system—both in terms of percent of eligible persons served and quality of outcomes (Walker, Belgrave, Nicholls, & Turner, 1991; Alston & Mngadi, 1992). Providing effective rehabilitation services requires cultural competence. Improving cultural competences throughout the service delivery system offers one of the most promising strategies for responding to previously underserved populations.

A consensus is building among the teaching and training professions that multi-cultural concerns can better be addressed through pedagogy than through the curriculum. That is, what we do is more important than what we say. Effective teaching or training in a culturally diverse social system also requires cultural competence (Green, 1982). An awareness of culture—one's own and of the consumer of one's services is important in teaching, training, and counseling.

Review of Illustrative Studies

Two recent studies conducted at the Arkansas Research and Training Center in Vocational Rehabilitation will be reviewed to illustrate the service delivery model being proposed. The first study conducted will be referred to as Study One: Effects of Client Involvement in Assessment on Vocational Development (Farley, Bolton, & Parkerson, 1992) and the other study will be referred to as Study Two: The Effects on Vocational Development of a Strategy for Empowering and Involving Consumers in the Vocational Evaluation Process (Farley, Bolton, & Taylor, in press).

Study One

Method. In study one, the following methodology was used. Every other cohort group admitted to a comprehensive rehabilitation center drawing referrals from all regions of one state were assigned to the experimental condition and received the two vocational development interventions in study one. Alternate cohort groups served as controls. Both groups participated in the center's regular vocational evaluation program but the control condition included additional exposure to work sampling.

The difference scores from a battery of self-report measures and a standardized vocational maturity interview administered pre- and post were analyzed with individual t-tests.

Participants. Participants were 75 vocational rehabilitation clients enrolled in the vocational evaluation section of a comprehensive rehabilitation facility in the southwestern United States. The sample was 71 percent male and ranged in age from 17 to 55 years, with a mean age of 24 years. Distribution by race was: white—77 percent, black—22 percent, and other—1 percent. Participants had completed from 6 to 16 years of education with a mean of 11 years. The major disabilities represented were 36 percent orthopedic, 32 percent other medical disabilities, 14 percent mental retardation, 11 percent psychiatric, and 7 percent sensory.

Intervention. The independent variable in this study was a vocational exploration and planning intervention consisting of two structured programs designed to involve the client in the vocational decision-making process. One was a small group vocational exploration program titled Occupational Choice Strategy (OCS; Roessler & Schriner, 1988). The other was a one-to-one approach titled Know Thyself (KT; Farley, Parkerson, Farley, & Martin, 1990).

The OCS program consists of 12 hours of instruction. A series of individual and group activities is used to guide the participants through three major components: Understanding Self, Knowing the World of Work, and Making a Vocational Choice and Plan. The components respectively are designed to increase a participant's a) knowledge of self in the areas of work values and needs, interests, aptitudes, and personal strengths and limitations; b) knowledge of the work world, such as available jobs, their requirements, education needed, and future outlook; and c) vocational decision-making skills resulting in the selection of a goal and a plan to achieve the goal.

To put into operation Vash's Know Thyself Manual (1984), Farley, Parkerson, Farley, and Martin (1990) developed the Know Thyself Intervention, a procedure for describing the evaluation process and sharing evaluation results with clients. The Know Thyself approach consists of approximately 2 to 3 hours of one-to-one discussion of the evaluation process, the evaluation results, and their implications for service planning. Each participant is issued a notebook containing a) information about the evaluation process and evaluation tests and procedures that are used; b) a guide to discuss test results; and c) a structure to plan actions and service based on the results.

Dependent Measures and Results. To evaluate the intervention, five dependent measures were used to test five hypotheses:

1. On the Vocational Self-Awareness Scale (Farley, 1988), the experimental group demonstrated a significantly greater improvement in knowledge of personal attributes in relation to vocational choice than the control group, which also made modest improvement.
2. On the My Vocational Situation (MVS) Scale (Holland, Daiger, & Poer, 1986), the experimental group demonstrated a significantly larger gain in confidence in vocational decision-making ability than the control group, which evidenced modest improvement.
3. On the Career Decision Scale (Osipow, 1980), the difference in gain scores between the experimental and control groups approached significance ($p = .07$), suggesting greater gain on the part of the experimental group as compared to the control group, which changed only slightly.
4. On the Employability maturity Interview (Morelock, Roessler, & Bolton, 1987), the experimental and control groups both showed substantial and similar gains in readiness for vocational rehabilitation planning (more than half a standard deviation); hence, no difference was found between the groups.
5. On the Program Satisfaction Survey, which was designed for this study, no differences were found between the experimental and control groups in their expressed satisfaction with evaluation services.

Study Two

Method. The methodology for the second study was similar to the first study except a) only one intervention (Know Thyself) was employed, b) the Know Thyself intervention was carried out by the clients' center counselors whom had been randomly selected and trained by the research assistant who carried out all the Know Thyself interventions in Study One, and c) the outcome measures were administered at posttest only.

Participants. Participants were 60 vocational rehabilitation clients enrolled in the vocational evaluation section of a comprehensive rehabilitation facility in the southeastern United States. Sixty-five percent were male and ages ranged from 17 to 47 years with a median of 32. Distribution by race was: white—80 percent, black—18 percent, and other—2 percent. The major disabilities represented were 36 percent orthopedic, 24 percent psychiatric, 22 percent learning disabled, 9 percent other medical disabilities, 5 percent mental retardation, and 3 percent sensory.

Intervention. The independent variable in Study Two was limited to the Know Thyself Intervention of one-on-one career planning described in Study One. This program manual was specifically designed to empower and involve rehabilitation clients in the vocational evaluation and service planning process.

Dependent Measures and Results. The first four measures used in Study One were also used in Study Two. The experimental group receiving the Know Thyself intervention showed significantly more gain on all four measures at or beyond the .02 level of confidence. These measures tapped the following constructs: vocational self-awareness, confidence in one's vocational decision making, career indecisiveness and vocational maturity. The fifth measure was a structured self-rating of perceived involvement in the evaluation process. In the first study clients had responded to a more general client satisfaction measure and the difference between the experimental and control groups were not significantly different. For the perceived involvement measure in the second study the experimental group reported more involvement which was significantly different at the .03 level. Analysis of all five dependent variables simultaneously using MANOVA resulted in an $F(5, 50) = 2.58$, $p < .02$, which substantiated an overall general effect.

The hypothesis was supported that vocational evaluation participants who engaged in Know Thyself activities would demonstrate a greater degree of vocational development when compared to those receiving routine evaluation services.

Discussion

Adapting a client centered or partnership approach to vocational evaluation emphasizes doing things with clients rather than to clients. Making the expertise and assessment tools of vocational evaluation more accessible is empowering to individuals with disabilities. Consumers can use the data generated in assessment to guide their own career development. When the results of vocational evaluation are handed down from a professional expert the person with a disability is not involved in a developmental process. Special precautions are needed to structure the situation so as not to emphasize the difference in status of the client and the professional. This is particularly true when the client must cope, in a triad situation, with a counselor and a vocational evaluator.

In addition to status role differences, rehabilitation service providers are seen as representing the majority group culture (even if they happen to be a minority group member) while having a severe disability places one in a minority group status. Many persons receiving services are also from culturally diverse backgrounds which have exposed them to prejudice and discrimination from the majority culture. Strategies such as career exploration in a small cohesive group of peers and the Know Thyself manual which represent state-of-the-art career counseling may help avoid either fostering dependency or rejection of services and may facilitate empowerment. These interventions are also representative of those most able to accommodate multi-cultural diversity.

Summary

A paradigm change encompassing disability services, human services, and the culture at large is underway. This shift is to a systemic perspective focusing on community development and working through families and with individuals. The mission is to empower individuals with disabilities to set their own independent living and career goals, develop programs to achieve them, and evaluate the results in terms of their own valued criteria.

Two state-of-the-art career development interventions were carried out within a traditional vocational evaluation program and evaluated for its impact on clients' level of career development. Support was especially strong for the individual planning intervention, Know Thyself.

References

Akridge, R. L. (1985). A critique of the research data base relative to work adjustment. Second National Forum on Issues in Vocational Assessment. Menomonie, WI: University of Wisconsin-Stout, Stout Vocational Rehabilitation Institute.

Akridge, R. L. (1991). A proposed strategy for assessing how responsive communities are to the independent living and career development needs of persons with severe disabilities. Fifth National Forum on Issues in Vocational Assessment. Menomonie: University of Wisconsin, Stout Vocational Rehabilitation Institute.

Akridge, R. L., & Greenwood, R. (1990). Marketing rehabilitation. Proceedings of the Seventh Annual NRCA Training Symposium, Boston, MA.

Alston, R. J., & Mngadi, S. (1992). The interaction between disability status and the African American experience: Implications for rehabilitation counseling. Journal of Applied Rehabilitation Counseling, 23(2), 12-16.

Bolton, B. (Ed.) (1987). Handbook of measurement and evaluation in rehabilitation (2nd ed.). Baltimore, MD: Paul Brookes.

Bolton, B. (Ed.) (1988). Special education and rehabilitation testing: Current practices and test reviews. Austin, TX: Pro-Ed.

Chubon, R. A. (1992). Defining rehabilitation from a systems perspective: Critical implications. Journal of Applied Rehabilitation Counseling, 23(1), 27-32.

Condeluci, A. (1991). Interdependence: The route to community. Rehab USA, Summer, 12-14.

Farley, R. C. (1988). Vocational Self-Awareness Scale. Fayetteville, AR: University of Arkansas Research and Training Center in Vocational Rehabilitation.

Farley, R., Bolton, B., & Parkerson, S. (1992). Effects of client involvement in assessment on vocational development. Rehabilitation Counseling Bulletin, 35(3), 146-153.

Farley, R., Bolton, B., & Taylor, J. (in press). The effects on vocational development of a strategy for empowering and involving consumers in the vocational evaluation process. Vocational Evaluation and Work Adjustment Bulletin.

Farley, R., Parkerson, S., Farley, O., & Martin, N. (1992). Know thyself: An empowerment strategy for involving consumers in the vocational evaluation and planning process. Fayetteville: University of Arkansas Research and Training Center in Vocational Rehabilitation.

Green, J. W. (1982). Cultural awareness in the human services. Englewood Cliff, NJ: Prentice-Hall, Inc.

Holland, J. L., Daiger, D. C., & Power, P. G. (1980). My vocational situation. Palo Alto, CA: Consulting Psychologists Press.

Kaskel, L. M. (1983). Client involvement in vocational evaluation planning: A program model. Vocational Evaluation and Work Adjustment Bulletin, 16, 123-125.

Lucas, C. (1985). Out at the edge: Notes on a paradigm shift. Journal of Counseling and Development, 64(3), 165-172.

Morelock, K., Roessler, R., & Bolton, B. (1987). The Employability Maturity Interview: Reliability and construct validity. Vocational Evaluation and Work Adjustment Bulletin, 20, 53-59.

Moriarty, J. B., Walls, R. T., & McLaughlin, Don E. (1988). Employability of clients served in state vocational rehabilitation agencies: A national census. Rehabilitation Counseling Bulletin, 32, 108-121.

Osipow, S. H. (1980). Manual for the Career Decision Scale (Rev. ed.). Columbus, OH: Marathon Consulting and Press.

Patterson, J. B., & Marks, C. (1992). The client as customer: Achieving service quality and customer satisfaction in rehabilitation. The Journal of Rehabilitation, 58(4), 16-21.

Roessler, R. & Schriner, K. (1988). Occupational Choice Strategy. Fayetteville: University of Arkansas Research and Training Center in Vocational Rehabilitation.

Schloss, P. J. & Schloss, C. N. (1982). Social skills training in the vocational rehabilitation of mentally retarded individuals. Vocational Evaluation and Work Adjustment Bulletin, 15, 142-147.

Stubbins, J. (1982). The clinical attitude in rehabilitation: A cross-cultural view. Monograph #16. New York: World Rehabilitation Fund.

Vash, C. L. (1984). Evaluation from the client's point of view. In A. S. Halpern & M. J. Fuhrer (Eds.), Functional assessment in rehabilitation (pp. 253-267). Baltimore, MD: Paul Brookes.

Walker, S., Belgrave, F. Z., Nicholls, R. W. (Eds.) (1991). Future frontiers in the employment of minority persons with disabilities. Proceedings of the national conference co-sponsored by the President's Committee on Employment of People with Disabilities and Howard University Research and Training Center for Access to Rehabilitation and Economic Opportunity.

Robert L. Akridge, Ed.D.
Roy C. Farley, Ed.D.
University of Arkansas
Research and Training Center in
Vocational Rehabilitation
P. O. Box 1358
Hot Springs, AR 71902

EXPANDING THE VOCATIONAL EVALUATION PROCESS THROUGH ASSISTIVE TECHNOLOGY

BRUCE J. REED, M.A., CVE, CRC
JULIET H. FRIED, ED.D., CVE, CRC
ROGER L. GRIMM, M.A., CVE

Abstract

The application of technology to people with disabilities, called assistive technology, can be a powerful tool. Functional capacities can be greatly expanded for many individuals. This article presents a brief background on the use of assistive technology in rehabilitation. Also discussed are some experiences at the Rehabilitative Services Clinic at the University of Northern Colorado, Greeley, Colorado involving applying assistive technology to the evaluation/assessment process. Included is discussion of the Clinic's Assistive Technology Checklist.

The impact of technology on people within our society is difficult to measure. Almost daily, we are introduced to new technological developments and devices. Picture telephones, "virtual reality" video systems, environmental control devices, and voice activated computers are all "high-tech" examples of technology that are beginning to enter the consumer markets. It is impossible to predict how daily life even a decade from today will be affected by such developments.

For the approximately 43 million people in the United States with a physical or mental disability, technology can be a powerful tool in helping to increase one's functional capacities be it in the area of mobility, jobs, education, social and recreational activities, independent living or any of a number of other areas. When technology is utilized by a person with a disability, it can be called assistive technology (Franklin, 1991). Also known as rehabilitation technology, assistive technology can be considered a process that uses equipment and services to help remove or minimize barriers that people with disabilities may face (Seventeenth Institute on Rehabilitation Issues, 1990). It can range from "high-tech" (voice activated environmental control units) to "low-tech" (tape wrapped on a pencil to allow for better gripping) with numerous examples in between (Hedman, 1990).

Assistive Technology Background

Assistive technology has become a dynamic, rapidly growing field within rehabilitation. Chubon, Stewart, and McGrew (1991) stated that it may become the "...rehabilitation buzz word of the 90's" (p. 253). As professionals involved with vocational evaluation and assessment, it is a field that must be incorporated into our activities. In a sense, the application of assistive technology is nothing more than observing a person's functional limitations and utilizing technology to help overcome some or all of those limitations. The ability to make recommendations to clients and referral sources regarding placement and training issues can contain important assistive technology components. Additionally, evaluation sites should include technology designed to allow clients to demonstrate their fullest capacities (Langton, 1991). For example, on-site use of "talking calculators", word predictor software, and/or a variety of back supports may facilitate more effective and realistic evaluations.

The use of technology by people with disabilities is not a new phenomenon. For centuries, people have fashioned canes and crutches. Likewise, the use of orthotics and prosthetics is an established practice. However, recent events and trends have accelerated the use of assistive technology.

In addition to technological advancements, federal legislation has impacted this trend. Although earlier legislation such as the Education of All Handicapped Children Act of 1975 (P.L. 94-142) influenced the use of technology, it was the Technology Related Assistance for Individuals with Disabilities

BEST COPY AVAILABLE

Act of 1988 (P.L. 100-407) that clearly dictated the application of technology to people with disabilities. This act was drafted to assist in expanding the role and access to assistive technology. Grant monies were made available for individual states to begin developing and implementing technology service delivery systems (Parette & VanBiervliet, 1991). The Americans with Disabilities Act of 1990 (P.L. 101-336) continued this legislative push of technological applications.

Hierarchial Service Approach

As with any newly emerging service field, differing delivery models exist. Some embody a traditional "medical model" approach where technology and related services are prescribed by professionals to the client. Others operate on the consumer driven end of the continuum, such as the Local Resource Team model designed by the State of Colorado (National Institute on Disability and Rehabilitation Research, 1993). Despite the particular model one subscribes to, the delivery of assistive technology typically involves following a simplest to most complex strategy. Common steps in this hierarchial approach are:

(1) Find an alternative method to perform the task (e.g., job restructuring).
(2) Use "off the shelf" products, ones commercially available at common retail outlets (e.g., Radio Shack).
(3) Modify "off the shelf" products.
(4) Purchase specialized devices from specialized vendors.
(5) Design and fabricate custom devices possibly with the assistance of a rehabilitation engineer. (National Rehabilitation Hospital, 1992)

Issues of Providing Assistive Technology

Always consider the potential user as the first source of assistive technology related information. Frequently, the individual has a clear idea of needs. Involvement of the user is vital. It is also important to remember that we are all individuals; a solution that worked well for one person may not have appeal to another. Additionally, the technology must be congruent with the environment; it must "fit-in". If the device(s) grossly impedes other operations or if the user feels that he/she stands out in a negative way, the device(s) may not be used.

Try to find low cost solutions first; many, many solutions cost very little. There is a tendency by some people to think of high cost items (e.g., voice activated computer systems) as the only form of assistive technology. In reality, applications such as blocks of wood used to raise a desk are also technology solutions. Keep it as simple as possible.

When assessing costs, remember that the actual cost may go beyond the purchase price. Maintenance, replacement parts, repairs, and training costs should also be factored in. In regards to training, think about long-term implications. How much training will be needed? How much is included with the purchase price? Who will provide it? Who is available to provide ongoing support, if needed?

Assistive Technology and the Evaluation/ Assessment Process

Writing in the Fifth National Forum Papers, Langton (1991) called upon vocational evaluators to become leaders in the field of identifying assistive technology needs for people with disabilities and recommending solutions. He also stated that few evaluation sites have become involved in using and assessing assistive technology. To what extent this is currently true is one of the main purposes of an Assistive Technology Survey circulated by the authors at the 1993 Forum. For evaluators who have the needed supports to more fully incorporate assistive technology into their evaluations, the opportunity exists to set themselves and their programs apart from others. Not only can valuable services be given, increased business should also result.

It is a given, however, that the extent that one uses and assesses assistive technology may vary greatly from client to client and program to program. In some situations, such as a workers' compensation case, the referral source may have no interest in adaptive devices and accommodations. How much to assist such a client learn about appropriate technology becomes a judgment call.

The following discussion focuses on ideas and experiences generated from instituting assistive technology as an integral part of vocational evaluation services at the Rehabilitative Services Clinic on the University of Northern Colorado campus. This is intended to provide practical, "hands on" information.

Initiating the Process

As is intuitively obvious, in order to assess something, you must first have some level of expertise regarding that subject. For many evaluation/assessment professionals, that means first learning much more about assistive technology. Workshops, professional conferences, and journal articles are becoming important sources of technology information. It is the authors' hope that more and more college training programs will see the future assistive technology holds and begin offering appropriate coursework.

It is important to establish an on-site assistive technology resource library. The extent of such a collection will obviously vary from site to site. Books, technical manuals, vendor catalogs (almost always free of charge), listings of key agencies and contacts, etc. will prove to be invaluable. The ability to inventory resources onto a database makes searches more efficient. Not only will such a library assist evaluation/assessment professionals in further learning the field, it will also help when writing specific technology related recommendations.

Through any means possible (e.g., grants, donations of used equipment, agency budgets, loaners) begin to acquire assistive devices. This process may start slowly as many do with donated, outdated equipment. Once the "ball is rolling", however, and this fact is publicized, the possibilities expand.

Realizing that in most cases it may prove impossible for the evaluation staff to master all of the many, diverse areas of assistive technology, the staff might want to consider developing a network. Referred to as "technology teams" (Langton, 1991), typical participants might include occupational therapists, physical therapists, rehabilitation engineers, speech and communication specialists, computer access specialists, etc. Those operating in larger organizations may find this approach more feasible than others.

Specialization

If reality dictates that widespread expertise will not be an option, consider becoming a specialist. While not ignoring a need to learn more about the field in a general sense, use your programs' strengths (equipment and personnel) as well as your referral sources needs to indicate an area of specialization. Programs having personnel with occupational/ physical therapy backgrounds might logically establish independent living devices as a specialty area.

In the case of the Rehabilitative Services Clinic, a specialty in computer access and software evolved. As a result, the Rehabilitative Services Clinic can now offer a computer assessment as part of a comprehensive evaluation or as a "stand alone" assessment. As this fact becomes known to referral sources, more people are taking advantage of this service. Before authorizing limited funds for a computer system, some are choosing to have us first perform a computer assessment.

Assistive Technology Checklist

The Rehabilitative Services Clinic's Assistive Technology Checklist (Table 1) is, in effect, an index of assistive devices and presentation formats (e.g., audio tape) that are available on-site. It should be emphasized that this list is site specific; that is, it details what available resources are at this particular facility.

Assistive Technology Checklist
Rehabilitative Services Clinic
University of Northern Colorado
Table I

Limitations	Devices
Cognitive Memory	___ Date, time books ___ *Word predictor software ___ *Spell checkers ___ *Grammar checkers
Handling and Fingering	___ Desk top organizers ___ "Lazy Susan" carousels ___ "Universal cuffs" ___ Tubing for pens, pencils, etc. ___ Arthwriter ___ Felt-tip pens ___ Carts (for moving objects) ___ *Wristguard
Hearing	___ Swivel chair ___ Written formats
Incoordination	___ Casterless chair ___ Tubing for pens, pencils, etc. ___ "Universal cuffs" ___ *Keyguards
Lifting and Reaching	___ "Grabbers" ___ Desk top organizers ___ "Lazy Susan" carousels ___ Adjustable table ___ Portable lap desk ___ Carts (for heavy objects)
Lower Extremities	___ "Rising" adjustable chair ___ Caster chair ___ "Grabbers" ___ Adjustable tables (wheelchair access) ___ Portable lap desk
Seating and Positioning	___ Backrest support cushions ___ Casterless chair ___ Adjustable chair ___ Arm rests ___ Angled tables, work areas ___ Adjustable footstool
Upper Extremities	___ "Lazy Susan" carousels ___ Tiltboard ___ Adjustable stand ___ Adjustable chair ___ Adjustable table ___ *Alternative input methods
Visual Limitations	___ Audio tape formats ___ Braille formats ___ "Talking" calculator ___ Magnifiers ___ *Large print software ___ *Voice output hardware and software

* Computer Related

It is envisioned that each site's checklist would have some overlap yet also be unique. The format of the checklist is designed to match functional limitations with possible aids to help overcome or eliminate those limitations.

After operating without such a list, the value of the inventory became apparent for various reasons. First, it serves as a reminder to evaluation staff as to what assistive devices are available. Second, staff at the Rehabilitative Services Clinic have begun using the list, when appropriate, during the Intake Interview portion of an evaluation. It serves as a guide for discussing and eliciting information regarding technology from a potential user. This process gets all parties thinking about technological possibilities from the beginning of the evaluation. Third, again when appropriate, information gathered from the Intake discussion may lead the evaluator to including "Assistive Technology Exploration" as a component of the Individual Evaluation Plan. The exploration can be performed with or without staff assistance. Packets of information along with accompanying equipment are currently being developed by the evaluation staff to facilitate this process. For example, if a potential user of "word predictor software" desired exploration, he/she would be directed to both written information as well as "hands on" use.

Making Assistive Technology Recommendations

When addressing assistive technology recommendations in your final report, it is important to be as specific as possible. Remembering that many people are unfamiliar with technology, it is the evaluator's charge to be explicit. Recommending that a client would benefit from a "grabber" is a good start. However, the recommendation should also include a brief description of the device, vendor names, addresses and telephone numbers, and approximate cost. In other words, assume the report will be read by people not well versed in technology. You can do your clients and referral sources a true service by providing detailed information.

Recommendations may involve a referral to other assistive technology entities. Referral to a rehabilitation engineer for specialized rehabilitation services (Thomas, 1981) which may include modification or construction of equipment might be recommended. Possibly, after assessing an individual, further, more extensive technological assessment is required. At this point, a referral to a specialized site may be recommended. Again, the same principle holds; be as specific as possible.

Conclusions

Assistive technology is a powerful tool. By no means is it a panacea, however. Used properly, it can help reduce or even eliminate many functional limitations. Evaluators are in a unique position to become leading contributors in assessing the application of technology to people with disabilities. It is prophesied here that, in the near future, more and more referral sources will ask specific assistive technology related questions. Individuals and evaluation/assessment programs that have positioned themselves to effectively address technology questions will be in demand.

References

Chubon, R. A., Stewart, W. W., & McGrew, G. W. (1991). The implications of technology for vocational assessment. Rehabilitation Education, 5(4), 253-260.

Franklin, K. (1991). Assistive technology: Where are we? Where are we going? Journal of Vocational Rehabilitation, 1(2), 6-7.

Hedman, G. (1990). Overview of rehabilitation technology. In G. Hedman (Ed.), Rehabilitation technology (pp. 1-10). New York: Haworth Press.

Langton, A. (1991). Making more effective use of assistive technology in the vocational evaluation process. In R.R. Fry (Ed.), Fifth national forum on issues in vocational assessment: The issues papers (pp. 63-68). Menomonie, WI: Materials Development Center.

National Institute on Disability and Rehabilitation Research (1993). Assistive technology. Rehab Brief, 14(3).

National Rehabilitation Hospital (1992). Principles of Reasonable Accommodation. Washington, D.C.

Parette, H. P., & VanBiervliet, A. (1991). Rehabilitation assistive technology issues for infants and young children with disabilities: A preliminary examination. Journal of Rehabilitation, 57(3), 27-36.

Seventeenth Institute on Rehabilitation Issues (1990). The provision of assistive technology services in rehabilitation. Hot Springs, AR: University of Arkansas, Arkansas Research and Training Center in Vocational Rehabilitation.

Thomas, S. (1981). Rehabilitation engineering in vocational evaluation and work adjustment. Vocational Evaluation and Work Adjustment Bulletin, 14(3).

Bruce J. Reed, M.A., CVE, CRC
Juliet H. Fried, Ed.D., CVE, CRC
Roger L. Grimm, M.A., CVE
University of Northern Colorado
College of Health & Human Sciences
Department of Human Services
Greeley, CO 80639

ESTABLISHING VOCATIONAL DIRECTION UTILIZING FANTASY WITH PERSONS WHO ARE SEVERELY DISABLED

WILLIAM J. BRAUNIG, M.S., CVE

Abstract

The process of empowering consumers to establish and develop their own vocational goals can be extremely challenging for people with severe disabilities. Rehabilitation practioneers such as evaluators and adjustment specialists are now assisting this population with mixed results.

This paper will present a systematic approach to vocational goal development utilizing temperaments as the transferable skill. Frequencies, percentages and distributions of the consumer's "fantasy" temperaments will show how consumers can assist in the identification of alternate occupational titles.

Introduction

Fantasy is the result of a consumers visual, auditory, or tactile experiences with their environment. A consumer either sees something, hears about something or touches/attempts something which stimulates their interests. Therefore, fantasy should be incorporated as an interest since it contains the essence of both consumer decisions (empowerment) and vocational preferences.

The use of fantasy in vocational goal development does not appear to have been widely utilized in the past. With the emphasis towards working with the "most severely disabled" population, fantasy is a viable tool. Many consumers do not have the exposure to the world of work or the extensive vocabulary to extrapolate specific occupational titles for the rehabilitation professional to use in traditional service delivery programs.

Additionally, consumer fantasy occupations are usually over-looked by rehabilitation professionals as unrealistic in nature because of the large discrepancy in current consumer skill level and essential functions of the particular occupation chosen in the fantasy. It is believed that fantasy occupations contain the basic environmental needs, as well as the temperaments of the consumer that he/she would enjoy in a community based setting.

The Revised Handbook for Analyzing Jobs(1991), goes on to include that a person's dissatisfaction or failure to perform adequately may be a reflection of the inability to adapt to the work situation rather than the actual job duties. If this is true, then a consumer's fantasy should incorporate the fundamentals of "specific job-worker situations", and therefore be reflected through the temperaments of a job.

Recording Fantasy

The process for establishing vocational direction from consumer fantasy begins with the establishment of occupational titles. The rehabilitation professional needs to encourage the consumer to identify jobs that he/she would like to do, regardless of their disability or current skill levels for these jobs. The rehabilitation professional must use caution not to lead or place value upon the consumer's fantasy jobs as this may skew the results.

To this point, there are no parameters that the consumer must stay within when selecting occupations. The rehabilitation professional may utilize any number of methods for recording this information. While most consumers will be able to verbally express information, some may not.

For those who can not verbally express their fantasies, the rehabilitation professional will need to observe facial expression, body language or similar responses of the consumer as they are exposed to occupations. If at all possible, pictures should not be used independently as they limit the consumer's ability to independently choose their fantasies.

Pictures can limit this process because consumer fantasy may not be incorporated within the pictures shown, and therefore the results are reflective of only those pictures shown to the consumer. Supplement pictures with other occupational exploration techniques such as interviews, tours, etc. This way the rehabilitation professional will get a more holistic vocational profile.

Fantasy occupations can be recorded on regular paper. Every effort should be made to record any reasons that the consumer gives for the fantasy occupation as trends in occupational status, industry designation, or similar characteristics may be noted. The more fantasy occupations that the rehabilitation professional can acquire, the better the distribution of the temperaments will be.

Once the fantasy occupations are gathered, the rehabilitation professional begins to match the fantasy occupations to specific Dictionary of Occupational Title (DOT) numbers and records them accordingly (across the top of the page) on a transferable skills worksheet (Figure 1).
It should be noted that the consumer's input with the selection of the appropriate DOT number is very important. This will help ensure that the most appropriate number has been selected for use in the analysis process.

Analysis

The analysis process is relatively straight forward. The consumer's fantasy occupations are referenced to the Classification of Jobs-Revised (COJ-R) and only the temperaments are recorded within the grid (see Figure 1). After all of the fantasy occupations have been recorded on the form, the frequencies of each temperament are added horizontally and recorded. These frequencies represent the distribution of temperaments within consumer fantasies.

Since the type of information displayed would be considered ordinal data, the only meaningful analysis would be that of frequencies, and percentages (see Figure 2).

If those temperaments are used which have the highest frequencies associated with them, the rehabilitation professional can increase the "probability" of successfully meeting the consumer's needs through the temperaments of the environment as opposed to the actual work performed.

With this in mind, the rehabilitation professional can then begin to match alternate occupational titles in the Classification of Jobs which match those temperaments established through the consumer's fantasies. The rehabilitation professional will still need to establish consumer baseline skills (i.e. aptitudes, academic levels, physical capacities, etc.) in order to determine the potential for either supported placement or job carving opportunities.

Conclusion

The utilization of consumer fantasy needs to be considered in the overall rehabilitation process. Consumer empowerment is a major underlying factor when using this technique. The opportunities for the transitioning of the severely disabled population into meaningful, community based employment is expanded with this approach, as it minimizes the potential for the rehabilitation professional to either stereotype or pass false judgement on possible vocational options.

This technique is seen as an alternate method to job development, vocational exploration and establishing the much needed rapport between the rehabilitation community, business community and the consumers of rehabilitation services.

Transferable Skills Worksheet

	201.362–030	311.477–030	279.357–054	375.367–010	311.677–014	913.463–010	620.131–014	092.227–018	211.462–018	905.663–018	196.263–014	362.682–010	323.687–014	785.261–010	405.161–014	249.367–046	070.101–094	715.281–010	079.374–014	235.462–010					TOTALS
Alone(A)																									0
Direction(D)							X	X							X		X								4
Feeling/Expression(E)																									0
Influencing(I)			X					X																	2
Judgement(J)	X					X	X			X	X	X		X	X		X	X							10
People(P)	X	X	X	X	X	X	X	X	X	X						X	X		X	X					14
Repetitive(R)		X			X				X				X							X					5
Stress(S)				X							X						X		X						4
Tolerance(T)							X		X		X	X		X				X	X						7
Under(U)													X												1
Variety(V)	X						X				X	X				X			X						6

Figure 1

Frequencies and Percentages of Temperaments
Within Consumer Fantasy Occupations (N=20 Occupations)

		Frequencies	Percentage
Alone(A)		0	0%
Feeling(E)		0	0%
Under(U)	X	1	5%
Influencing(I)	XX	2	10%
Stress(S)	XXXX	4	20%
Direction(D)	XXXX	4	20%
Repetitive(R)	XXXXX	5	25%
Variety(V)	XXXXXX	6	30%
Tolerance(T)	XXXXXXX	7	35%
Judgement(J)	XXXXXXXXXX	10	50%
People(P)	XXXXXXXXXXXXXX	14	70%

Figure 2

References

U.S. Department of Labor (1991). Dictionary of Occupational Titles. (Fourth Edition). JIST Works, Inc., Indianapolis, IN.

U.S. Department of Labor (1991). The Revised Handbook for Analyzing Jobs. JIST Works, Inc., Indianapolis, IN.

Field, J. E., & Field, T.F. (1992) Classification of Jobs. (Fourth Revision). Elliott & Fitzpatrick, Inc. Athens, GA.

William J. Braunig, M.S., CVE
Ohio Valley Goodwill Industries
10600 Springfield Pike
Cincinnati, OH 45215

Transition of persons with cognitive disabilities: Policy Implications of analyses of the DOT

Jacques H. Robinson & Gary M. Cusick
Kent State University
Rehabilitation Counseling & Services

Abstract

An analysis of the 1977 and 1991 editions of the U.S. Employment Service's Dictionary of Occupational Titles (DOT) and related materials was performed. The implications of these analyses for the definition of policy related to the transition of persons with mild to moderate cognitive disabilities to the work is presented. The policy implications will address both current practice and Research and Development (R&D) priorities.

The purpose of this paper is: (1) to report the results of analyses of the 1977 and 1991 editions of the U.S. Employment Service's Dictionary of Occupational Titles (DOT) and related materials; and (2) to define the implications of these analyses for the definition of policy related to the transition of persons, with mild to moderate cognitive disabilities to the work. The policy implications will address both current practice and Research and Development (R&D) priorities.

In the current context, cognitive deficits include those which impact negatively on mental functioning, learning, academic functioning, and/or social adaptability. This includes disabilities such as: mental retardation, mental illness, learning disabilities, and focal brain damage.

1977 DOT Analysis

In 1981, Robinson and Morrison analyzed the 1977 edition of the DOT in order to identify job titles offering employment potential for youth with mild or moderate mental retardation. Central to this effort was the use of the worker function (Data, People, Things) code included in DOT job titles to make a rough estimate of the level of Task Demand (TD) or difficulty of each job described in the DOT. The 12,175 base job titles were divided into two levels, High and Low task demand. A 3 (Data); 6 (People); 3 (Things) criteria was used to define the upper limit of the Low Task Demand Level and a 2/5/2 code defined the lower bound of the High Task Demand Level. Robinson & Morrison (1981) organized the data by DOT occupational categories (the first digit of the DOT Occupational Code) and Occupational Divisions (first two digits) and presented the frequency and percentage of Low Task Demand (LTD) jobs. A summary, for comparative purposes, of the data by DOT categories is included in Table 1.

The task demand levels were established on the basis of clinical experience and were designed to offer a conservative estimate of the distribution of LTD jobs (those assumed to be within the cognitive functioning of most persons with mild retardation).

It is clear that some persons who are mildly retarded are capable of Persuading or Diverting (5/4) People) or of Operating-controlling (2, Things) (which includes operating a car or a sewing machine). However, a conservative standard was used to preclude rejection of the cut-off criteria.

The cut-off criteria were validated against sources such as the Handbook of job placement of mentally retarded workers (Jacobs, et al 1979). The target job profiles were congruent with the cut-off criteria with the exception that some target jobs did have a "Things - 2" code.

The data presented by Robinson & Morrison (1981) revealed that: (1) almost half (49.55) of the job titles in the 1977 DOT were at the low TD level; (2) the percentage of LTD jobs as a function of Occupational category ranged from a low of 4.26 (0/1: Professional, technical and managerial) to a high of 68.29 (7: bench work); (3) in six of the occupational categories, the percentage of LTD jobs exceeded 50%; (4) Category 5 Processing (27.22%); Category 6 Machine trades (18.40%), and Category 7 Bench work (26.10%) together accounted for 71.71% of the LTD job titles and 35.52 of all of the job titles. These data suggest that there are a wide range of job titles which offer an option of potential employment for persons who are mentally retarded or who display other cognitive deficits.

Robinson and his colleagues reanalyzed job placement data from Becker's (1976) study of school-work programs for youth, who are educably mentally retarded, in order to validate the task-demand criteria and supply a baseline of placement data gathered as the 1977 DOT was being prepared for publication. The data are presented as an appendix to this paper as they have not been published previously. The Becker (1976) data reflect 1,401 placements in positions involving 178 different job titles.

Job titles are seen as defining job options whereas positions define job opportunities within the potential of persons with mild cognitive dysfunction. The distribution of job titles used to define placements can be directly compared to the distribution of titles in the DOT. However, there is no direct means of tying task demand level to positions offering job placement.

Inspection of the Appendix suggests that: (1) less than 2% of the placements were in positions above the upper bound (3,6,3) of the LTD level; (2) over 87% of the placements were at the minimal task demand (6,8,7) level; (3) over 57% of the placements were in occupational category 2, Services, were 28.65% of the job titles.

In summary, then, it would seem that:

1. The task demand criteria established by Robinson & Morrison (1981) are "realistic" in that
    a. Few youth with mild mental retardation exceed that placement level.
    b. At least some reach it.
2. The distribution of "actual" job placements of youth with mild mental retardation is not consistent with the proportions one would expect:
    a. As a function of the distribution of "potential" job options.
    b. Rational considerations related to the demands of such jobs.
3. The distribution of actual school-work placements reflects:
    a A limitation in the range of job options relative to both occupational category and level of task demand.
    b. A bias toward very low task demand jobs.
    c. A bias against positions in production environments (which may well be a

function of a lack of familiarity with those environments on the part of placement personnel.

It is clear that either Robinson and his co-workers have overestimated the range of potential jobs for youth who are retarded or that school-work placement specialists are not using anywhere near the job placement options open to them. Clearly, further research is necessary as the issue is of profound significance.

The publication of the 1991 edition of the DOT, which includes jobs published in the Fourth edition supplement (1986), has occasioned the present analysis which builds upon, and extends, the prior work. The present effort is an attempt to update and refine the previous analysis and define the implications for policy and research.

The significance of this work

It is clear that youth with disabilities are underserved with respect to vocational preparation and placement as the federal government has made transitioning to the world of work a priority concern (Will, 1984; Bellamy & Wilcox, 1981). The GAO and other services have documented that persons with disabilities are underserved in terms of Vocational Education (VOED). Cummings and Maddux (1985) cite:

a) Brolin and Elliott (1984) who have demonstrated that: 7,800,000 adults with disabilities have no income and 4,100,000 earn less than \$3,000 a year. Of the 9,000,000 who are employed, their average earnings are \$2,000 less that on non-disabled co-workers (p. 3) and that a half-million SPED students a year leave the schools unprepared for adult life.

b) Razeghi (1979) suggests that the economic dependency of persons with a disability costs over 115 billion dollars a year.

c) Levinson (1984) who estimates that over a million students with disabilities lack the skills needed for competitive employment.

Many factors have been identified as contributing to this situation and among these are:

(1) Societal, employer and co-worker attitudes. See e.g.: (Wehman, 1976; Jacobs, Larson & Smith, 1979; Brolin, 1976, 1982; Goldstein, 1976; Gold, 1973) Farber, 1968). These attitudes include rejection and stereotypical discrimination of persons with disabilities and their job potential.

(2) Inadequate school programming. See e.g.: Heller, 1981; D'Alonzo, Marino & Kauss, 1984; Clark, 1984; Brolin, 1976, 1982; Sitlington, 1981; Hohenshil, 1984) These inadequacies include criticism of SPED, VOED, career and professional training programs.

While there is little doubt that there is a serious problem, there is more dogma than there are data to back up the reasons why there is a problem and exactly what should be done about it.

Method

The procedural steps followed were as follows:

The frequency and percentage of low and high task demand job titles as a function of occupational category were calculated for both the 1977 and 1991 editions of the DOT. Comparative data are supplied in Table 2.

Results and Conclusion

Table 2 and Figure 1 compare the distribution of LTD and HTD job titles as a function of occupational category in terms of frequencies, percentages and differences in each between the 1977 and 1991 editions of the DOT. Inspection of Table 2 reveals that:

(a) In the main, the distribution of LTD and HTD jobs is about the same in both 1977 nd 1991 editions. The differences in all but two cases were less than three percentage points. Given this, the generalizations from Robinson & Morrison (1981) are seen as congruent with the 1991 DOT data.

(b) The two exceptions were in: (1) Occupational category 5, Processing, which involved an increase of 12.98 at the LTD level (and a comparable loss at the HTD level and, (2) Category 9, Miscellaneous, which involved an increase of 5.75 percentage points at the LTD level.

(c) All percentage increases involved an increase at the LTD level except in occupational Category 4, Agricultural, fishery, forestry related, which involved a decrease of 1.49 at the LTD level.

(d) Overall, the net percentage increase at the LTD level was 3.62 percent.

(e) Overall, there was an increase of 742 jobs at the LTD level; a decrease of 176 jobs at the HAD level for a net increase of 566 jobs.

(f) Over 50% of the jobs in the following categories are at the LTD level in both the 1977 and 1991 editions of the DOT.

3: Services
4: Agriculture, fishing, forestry, and related
5: Processing
6: Machine trades
7: Bench work
8: Miscellaneous

(g) About 40% of the jobs in occupational category 2, Service, and 8, Structural work, are at the LTD level in both editions.

(h) Slightly more than 4% of the occupational category 0/1, Professional, technical, and managerial, job titles are at the LTD level in both the 1977 and 1991 editions of the DOT.

(i) Overall, about 50% of all jobs are at the LTD level with an increase from 49.55 (1977) to 53.17 in 1991.

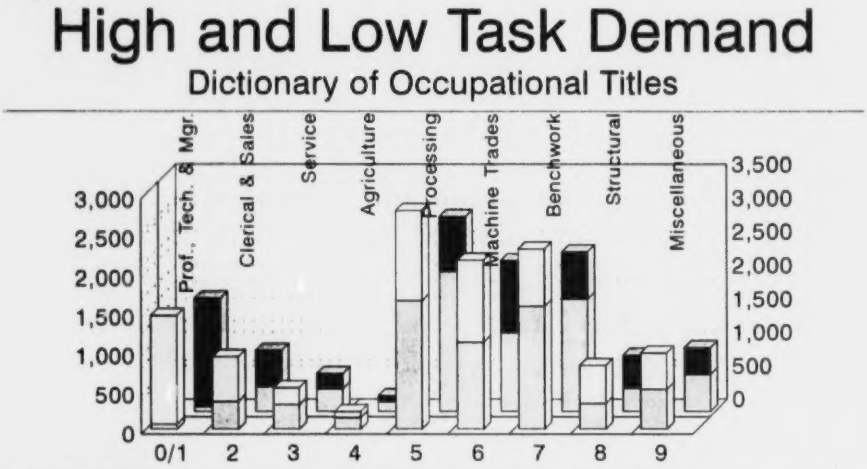
(j) In the 1977 edition the manufacturing oriented occupational categories (5, processing; 6, machine trades; and 7, bench work) accounted for 35.52 percent of all of the DOT job titles. In 1991, these three categories accounted for 59.14 of all of the job titles.

(k) Over 70% of the LTD jobs in both the 1977 and 1991 editions are accounted by the manufacturing oriented occupational categories (5, 6, 7).

Table 1
High and Low Task Demands arranged by Data, People and Things

Task Demand	Data	People	Things
High	0: Synthesizing 1: Coordinating 2: Analyzing	0: Mentoring 1: Negotiating 2: Instructing 3: Supervising 4: Diverting 5: Persuading	0: Setting up 1: Precision working 2: Operating - Constructing
Low	3: Compiling 4: Computing 5: Copying 6: Comparing	6: Speaking-Signaling 7: Serving 8: Taking Instruction-Helping	3: Driving-Operating 4: Manipulating 5: Tending 6: Feeding - Off bearing 7: Handling

Figure 1



91 High ■	1,620	541	228	85	819	1,069	704	499	401
91 Low ▨	73	373	337	150	2,086	1,179	1,678	345	554
77 High ☐	1,392	575	214	77	1,149	1,051	730	488	465
77 Low ☐	62	354	313	145	1,642	1,110	1,572	326	509

High & Low Task Demand Comparison of the 1977 and 1991 Dictionary of Occupational Titles

Table 2

A Comparison of the distribution of 1977 and 1991 DOT Job Titles as a function of Occupational Categories and Task Demand

Category	Frequency			Percentage		
	'77	'91	Diff.	'77	'91	Diff.
Professional Technical and Managerial						
Low	62	73	11	4.26	4.31	0.05
High	1392	1620	227	95.74	95.69	-0.05
Total	1455	1693	+238			
Clerical and Sales						
Low	354	373	19	38.44	40.81	2.40
High	575	541	-34	61.59	59.19	-2.40
Total	929	914	-15			
Service						
Low	313	337	24	59.40	59.65	6.25
High	214	228	14	40.60	40.35	-0.25
Total	527	565	+38			
Agriculture and Related						
Low	145	150	5	15.32	63.83	-1.49
High	77	85	8	34.68	36.17	1.49
Total	222	235	+13			
Processing						
Low	1642	2082	444	58.83	71.81	12.98
High	1149	819	-330	41.17	28.19	-12.98
Total	2791	2905	+114			
Machine Trades						
Low	1110	1179	69	51.37	52.45	1.08
High	1051	1069	18	48.63	47.55	-1.08
Total	2161	2248	+87			
Benchwork						
Low	1572	1678	106	68.29	70.50	2.21
High	730	704	-26	31.71	29.50	-2.21
Total	2302	2382	+88			

Table 2 Continued

Structural

Low	326	345	19	40.00	40.88	0.88
High	488	499	11	60.00	59.12	-0.88
Total	814	844	+30			

Miscellaneous

Low	509	559	45	52.26	58.01	5.75
High	465	401	-64	47.74	41.99	-5.75
Total	974	955	-19			

Totals

Low	6033	6775	742	49.55	53.77	3.62
High	6142	5966	-176	50.45	46.83	-3.62
Total	12175	12741	566			

Appendix 1

Frequency and Percentages of Job Titles Filled by Youth with Mild MR in School-Work Programs, Surveyed by Becker (1976) as a Function of DOT (1977) Occupational Category and Level of Worker Functioning.

Category	Above 363		363 to 687		687		Total	
	n	Percent	n	Percent	n	Percent	n	Percent
0/1	0	0.00	3	10.34	1	0.74	4	2.25
2	4	28.57	13	44.83	3	2.22	20	11.24
3	2	14.29	4	13.79	45	33.33	51	28.65
4	1	7.14	1	3.45	9	6.67	11	6.18
5	0	0.00	0	0.00	8	8.89	17	9.55
6	3	21.43	2	6.90	12	8.89	17	9.55
7	1	7.14	2	6.90	3	2.22	6	3.37
8	1	7.14	4	13.79	21	17.78	29	16.29
9	2	14.29	0	0.00	30	22.22	32	17.98
Total	14	7.89	29	16.29	135	75.84	178	100.00

Appendix 2
A Comparison of the Percentage of DOT (1977) Job Titles Associated with Potential and Actual Placements of the Retarded as a Function of Occupational Category

Category	Freq.	Percent Titles in Category	Freq.	Percent Placed in Job Title	Percent Difference
0/1	1455	11.95	4	2.25	-9.70
2	979	7.63	20	11.24	+3.61
3	527	4.33	51	28.65	+24.32
4	222	1.82	11	6.18	+4.36
5	2791	22.92	8	4.49	-18.43
6	2161	17.75	17	9.55	-8.20
7	2302	18.91	6	3.37	-15.54
8	814	6.69	29	16.29	+9.60
9	974	8.00	32	17.98	+9.98
Totals	6033		178		

Appendix 3

Frequency and Percentages of Positions Filled by Youth with Mild MR in School-Work Programs, Surveyed by Becker (1976) as a Function of DOT (1977) Occupational Category and Level of Worker Functioning.

Category	Above 363		363 to 687		687		Total	
	n	Percent	n	Percent	n	Percent	n	Percent
0/1	0	0.00	38	24.68	1	0.08	39	2.78
2	6	25.0	67	43.51	26	2.13	99	7.07
3	3	12.5	23	14.94	783	64.02	809	57.74
4	1	4.17	3	1.95	58	4.74	62	4.43
5	0	0.00	0	0.00	27	2.21	27	1.93
6	7	29.17	8	5.19	38	3.11	53	3.78
7	1	4.17	8	8.19	6	0.49	15	1.07
8	3	12.5	7	4.55	80	6.54	90	6.42
9	3	12.5	0	0.00	204	16.68	207	14.78
Total	24	1.71	154	10.99	1233	87.29	1401	

References

Becker, R. L. (1976). Job training placement for retarded youth: A survey. Mental Retardation, 14(3), 7-10.

Bellamy, T. & Wilcox, B. (1981). Secondary education for severely handicapped students: Guidelines for quality services. In B. Wilcox & A. Thompson, (Eds.) Critical Issues in the Education of Autistic Children and Youth. U.S. Dept. of Education, Office of Special Education.

Brolin, D. (1976). Vocational preparation of retarded citizens. Columbus: Merrill

Brolin, D. (1982). Vocational preparation of persons with handicaps. Columbus: Merrill

Brolin, D. E., & Elliott, T.R. (1984). Meeting the lifelong career development needs of student with handicaps. Career Development for Exceptional Individuals, 7(1), 12-21.

Cummings, R., & Maddux, C. D. (1985). Parenting the learning disabled: A realistic approach. Springfield, IL: Charles C. Thomas.

D'Alonzo, B. J., Marino, J. F., & Kauss, M. W. (1984). Mesa Public School Comprehensive Career and Vocational Education Program for Disabled Students. Career Development for Exceptional Individuals, 7(1) 22-29.

Farber, B. (1968). Mental retardation: Its social context and social consequences. Boston: Houghton-Mifflin.

Field, T. F., & Field, J. E. (1980). The Classification of jobs according to worker trait factors. (An addendum to the 1977 edition of the Dictionary of Occupational Titles. Roswell, GA: Vocational Service Bureau.

Gold, M. W. (1973). Research on the vocational habilitation of the retarded: The present and the future. International Review of Research in Mental Retardation, (6), 97-147.

Goldstein, H. (1976). How can you help a retarded patient get a job. Medical Times, 99(8), 123-136.

Hartlage, L. C. and Roland, P. E. (1971). Attitudes of employers toward different types of handicapped workers. Journal of Applied Rehabilitation Counseling, 2(3), 114-120.

Heller, H. W. (1981). secondary education for handicapped students: In search of a solution. Exceptional Children, 47, 582-583.

Hohenshil, T. H. (1984). School psychologists facilitating career development programs in secondary education. Career Development for Exceptional Individuals, 7(2), 51-58.

Jacobs, A. M., Larsen, J. K., & Smith, C. A. (1979). Handbook for job placement for mentally retarded workers. New York: Harland STPM Press.

Levinson, E. M. (1984). Vocational/career assessment in school psychological evaluation: Rationale, definition and purpose. Psychology in the Schools, 21, 122-117.

Miller, A. R., Treiman, D. J. Cain, P. S., and Roos, P. A. 1981 (Eds.) Work, jobs and occupations: A critical review of the Dictionary of Occupational Titles Washington, D.C.: National Academy Press.

Peterson, R. O. & Jones, E. M. (1959). Development of a system of job activity elements for the mentally retarded. Pittsburgh: American Institutes for Research.

Peterson, R. O. & Jones, E. M. (1960). Guide to jobs for the mentally retarded. Pittsburgh: American Institutes for Research.

Peterson, R. O. & Jones, E. M. (1964). Guide to jobs for the mentally retarded. Pittsburgh: American Institutes for Research.

Peterson, R. O. & Jones, E. M. (1980). Guide to jobs for the mentally retarded. Pittsburgh: American Institutes for Research.

Phelps, W. R. (1965). Attitudes related to the employment of the mentally retarded. American Journal of Mental Deficiency, 69 575-585.

Razeghi, J. A. (1979). Final report of supplement to consumer involvement in career and vocational education. Washington, D.C.: American Coalition of Citizens with Disabilities.

Robinson, J. H. & Morrison, L. (1981a). An estimation of the job titles potentially available to the retarded. Oberlin, OH: The Northern Ohio Special Education Regional Resource Center. Abstracted in Resources in Education, Nov. 1981, 16(11) (ERIC-ED 203 177).

Robinson, J. H. & Morrison, L. (1982b). Jobs for the retarded: Expanding horizons. Thrust: The Journal for Employment and Training Professionals, 3, 74-84.

Robinson, J. H. & Morrison, L. (1982). A contrast of the potential and actual job placement of retarded youth. Paper presented to American Vocational Association annual meeting, Washington, D.C.

Sitlington, P. L. (1981). Vocational and special education in career programming for the mildly handicapped adolescent. Exceptional Children, 47, 592-598.

United States Department of Labor (1972). Handbook for Analyzing Jobs. Washington, D. C.: Government Printing Office.

United States Employment Service (1977). Dictionary of Occupational Titles, (4th ed.) Washington, D. C.: Government Printing Office.

Wehman, P. (1976). Vocational training of the severely retarded: Expectations and potential. Rehabilitation Literature, 37, 233-236.

Will, M. (1984). Bridges from school to working life, DCD News, 8(4), 5-6.

Jacques H. Robinson, Ph.D., CRC and
Gary M. Cusick, Ph.D., CRC
310D White Hall
Kent State University
Kent, OH 44242-0001

VOCATIONAL EVALUATION OF THE OLDER WORKER WITH A DISABILITY

Norman C. Hursh, ScD, CRC, CVE
Department of Rehabilitation Counseling
Boston University

Abstract

Older workers are individuals for whom disability is a common experience and for whom services are inadequately provided (Blake, 1981). The heterogeneity of the aging work force dictates that assessment be individualized to best determine how available work return options and health care resources may be tailored to the individual's need.

A vocational evaluation model for older workers is presented that functions to prevent work disruption, to promote early intervention, and to maintain employment through transition to jobs compatible with ability.

INTRODUCTION

Older workers represent one of the fastest growing segments of the U.S. economy. However, the aging process is often accompanied by functional losses and increasing incidence of impairment and disability. Work related injury, impairment and disability have disturbing implications for employers concerned with work disruption and loss of productivity, increased health care and worker compensation costs, and limited cost containment options. Usually overlooked are the personal costs of disability to the older individual and his or her family.

This paper examines vocational evaluation strategies that function to identify and expand vocational options for older workers. Following a review of labor market and workplace trends that effect older workers, an evaluation approach that considers the worker, work activity, and the work setting will be developed. Evaluation strategies structured around prevention and early intervention will be described.

Older Worker Demographics

Older individuals represent the fastest growing segment of both the population and the work force. In 1984, there were 28 million elderly in the United States, representing 12 percent of population. Older individuals are expected to represent 13 percent of the population by the year 2000, and 21 percent of the population by 2030 (Lewis, 1989).

While the number of individuals entering the work force is decreasing, due to a lower birth rate, the number of older workers in the work force is increasing. Between the years 1982 and 2000, the number of workers between 18 and 34 years of age will decrease 12 percent. However, individuals between 35 and 54 years of age will increase 53 percent (Bauman, Anderson, & Morrison, 1986). The significance for older workers is that a projected economic expansion will result in 24 million new jobs by the year 2005, and the older worker will represent a potentially valuable labor resource for employers.

Disability characteristics

The correlation between aging and disability is significantly high (Sax & Bauman, 1987). Older individuals have a disability rate 8 times that of individuals under 45 year of age (Kemp, Brummel-Smith, & Ramsdell, 1990). In addition, the older person is more likely to face multiple and chronic impairments, as well as more severe disability (Myers, 1987). Thirty-five percent of older individuals have a disability serious enough to limit working, housework, or involvement in a major life activity (Myers, 1987).

The aging work force implies a work force that has increased impairment and disability incidence. Two-thirds of individuals with work disability are over 40 (Blake, 1981). The frequency and rate of secondary work limitations, occupational disability, and total disability are greater after 55 years of age than for any other work group (Holland & Falvo, 1990). These figures are not lost on employers who are concerned with work disruption and productivity loss, increased health care utilization, escalating worker's compensation cost, and cost containment (Bruyere & Shrey, 1991).

Illnesses and disabilities with the greatest impact on work and day to day functioning are chronic disabilities that include hypertension, hearing and visual impairment, heart disease, diabetes, and arteriosclerosis (Robinson, 1986).

Aging is also accompanied by increases in progressive and cumulative disability, such as degenerative disc disease, carpal tunnel disorders, and arthritis. Cumulative trauma disorders impact work through fluctuating and cyclical periods of work disruption, and progressively greater use of sick leave and other health care benefit utilization patterns.

The aging process for older workers is often associated with physical, emotional, and sensory developmental losses in areas such as memory, judgment, reaction time, and intellectual or cognitive ability. The functional losses experienced by older persons are typically viewed as an accepted and expected part of aging. The reality is that developmental losses are highly selective, variable, and gradual across individuals and the aging process itself.

Along with chronic disabilities, cumulative trauma disorders, and functional decline, older workers are often viewed as more accident prone and susceptible to injury. In reality, while accidents, injury, and acute impairments are often associated with the aging process, they actually decrease with age (Meyers, 1983; Robinson, 1986). Accidents and acute injury become proportionately less a cause of disability as the worker ages. More important to employers and industry is that older workers are less resilient, take longer to recuperate, and therefore experience longer work disruption when injured or disabled.

Disability Costs

Management of escalating health care costs is becoming an increasing concern for all employers. Older workers represent a segment of the work force with escalating health care cost liability due to the higher incidence of illness and chronic disability. It is estimated that between $98 and $362 billion are spent annually on overall health care services, with 50 percent spent on behalf of older individuals (Nash, 1987; Williams & Jones, 1985).

Once out of work due to injury or illness, older workers stay out longer than younger workers (U.S. Dept of Labor, 1989) and develop increased dependence on public and private health care systems. If they receive income maintenance benefits such as Long Term Disability (LTD), Social Security Disability Insurance (SSDI), or disability retirement, there is little incentive to return to work.

With increasing numbers of older workers with disability or impairment, demand on both income and medical benefit programs such as SSDI and LTD and Medicare and Medicaid will increase sharply. As the work force ages, it will become economically imperative for employers, rehabilitation, and health care systems to develop cost containment and disability management strategies (Nash, 1987).

Labor Market Trends

Between 1995 and 2005, the U.S. economy is expected to grow by 24 percent, resulting in 24 million new jobs. While this statistic represents continued economic growth, growth is not as dynamic as in previous decades. Over the next decade, the labor market is expected to change from a strong manufacturing and industrial market to a service and information technology market (Dept of Labor, 1992). It is projected that by the year 2005, the service field will provide 90 percent of all new jobs, with business service and health service industries accounting for the greatest increase in actual jobs (Williams and Rice, 1987).

A shift to service industries will reduce the need for workers to be involved in work that has a high physical demand and a corresponding high risk for injury and cumulative trauma. However, the emphasis and expansion in the service and information technology area will require a work force armed with a range of new skills and specialized abilities. Workers must take advantage of training and retraining opportunities to remain marketable to employers. This presents a challenge to older workers, who are often reluctant to participate in retraining, or who view themselves as unable to profit from training.

Technology impact. The economy will also be shaped by rapid technological developments. For the older worker, technology represents both challenge and opportunity. Technological applications will rapidly displace old jobs with new ones, with additional skill obsolescence occurring as jobs become outdated.

Technology also creates opportunities for individuals who experience impairment or decline in functional capacities. Jobs and work sites may be "engineered" to reduce ergonomic barriers to performance, or modified to accommodate functional deficits. Technology has developed assistive devices that accommodate disabilities and augment functional abilities. Examples of this are adapted computer keyboards for physical disabilities and enhanced keyboards to prevent carpal tunnel syndrome for data entry personnel.

Older workers with disabilities will need to be flexible in adapting to new jobs and retraining, and receptive to technological accommodations that enhance performance and promote work retention. As the need for workers increases, it will become more feasible for employers to retrain older workers who are physically unable to perform former jobs. Older workers must be receptive to exploring how their skills transfer to new jobs, and how to utilize existing training resources to keep pace with technological advances.

Barriers to Work Retention

Although chronic disability, cumulative trauma, and developmental losses result in work disruption and jeopardize ongoing employability for older workers, the attitude of employers and health care professionals toward aging and disability represents the most significant and pervasive barrier confronting the older worker with a disability (Hursh & Shrey, in press). Older workers face a systematic stereotyping and discrimination based solely on chronological age, a bias identified as "ageism" (Benedict & Ganikos, 1981). Ageism is not a benign or static concept, but an active and instrumental belief system that impacts employment practice, health care management, and public policy (Barry, 1981).

Employers. Employer attitudes toward the older worker impact hiring and promotion decisions as well as efforts to develop realistic return to work options when faced with progressive disabilities. Employers view the older worker with a disability as less capable, inflexible, unwilling to be retrained, lacking physical skills, and as driving up health care costs (Nash, 1987). In addition, when an individual is considered for employment, employers view the older worker as having fewer years of future employment and, subsequently, of less worth to the company (Nash, 1987). Age discrimination has been the most frequently cited case brought to the Equal Employment Opportunities Commission (EEOC) board.

Health care professionals. Ageism is particularly limiting when it affects the level and type of services offered by rehabilitation and health care providers. Although rehabilitation philosophy is well suited to working with the older person with a disability, vocational rehabilitation counselors demonstrate a high degree of age bias and tend to view older clients more negatively than younger clients (Benedict and Gantos, 1981; Myers, 1983). Younger clients are viewed as more likely to have significant years of work life ahead of them; older clients are faced with increasing functional loss, illness, and withdrawal from vocationally productive activity (Benedict & Gantos, 1981). Moreover, it is viewed as acceptable and expected that the older person will have an inability to perform up to previous standards or levels of functioning after rehabilitation (Myers, 1987).

Public policy. Employment and social policy for older workers with a disability restricts opportunities and choices through expanded social and income benefit systems. The message of programs such as SSDI, SSI, Early Retirement Incentive Programs (ERIPs), and Disability Retirement programs is that society will support and take care of the individual, with little expectation for the person to be involved in decision making. Public and health care policy has been to create security and support, and provide medical coverage and income maintenance, rather than to provide the rehabilitation needed to promote choice, independence, productivity, and self determination. While the philosophy of rehabilitation is empowerment and self-determination (Hahn, 1991; Emener, 1991), the reality for older individuals is a devaluation of their ability and a restriction of choice (Bowe, 1992).

Older workers with a disability. The relevance of negative attitudes, stereotypes, and ageism in medical and rehabilitation professionals, and society as a whole, is that the attitudes and values are transmitted to the older worker (Benedict & Gankos, 1981). Older workers, in turn, internalize the negative social judgment and conclusions about their own worth, productivity, and potential (Myers, 1987) and develop a lower worker self concept.

Observations

Despite employer attitudes concerning the productivity of older workers, restrictive income maintenance systems that reduce incentives to return to work, and despite physical losses and disability, many older workers who experience functional loss, cumulative trauma, or injury, want to work. Work serves an important economic, social, and psychological function at a time in life when the individual experiences other losses.

Rehabilitation can function to reduce impact of injury and disability and increase independence and productivity. However, systematic rehabilitation interventions have rarely been a part of work retention planning or service delivery for older persons. With the numbers of elderly and disabled increasing, costs associated with injury and disability escalating, and medical care and rehabilitation technology improving, to disregard the employment potential of the impaired older worker is costly, inappropriate, and unacceptable.

Industrial Rehabilitation Practice: Vocational Evaluation

Rehabilitation can function to reduce the impact of injury and disability and enhance the employability of the worker. However, systematic rehabilitation interventions have rarely been a part of work retention planning or service delivery for older persons in the work place. In industrial rehabilitation and disability management, vocational evaluation is the first step in rehabilitation planning, and functions to structure interventions that follow (Hursh, 1988).

Vocational Evaluation

In industrial rehabilitation, the role and function of vocational evaluation is to focus on prevention, early intervention, and job retention. Specific goals of vocational evaluation in industrial rehabilitation involve: 1) maintenance of the occupational bond between the worker and employer (Shrey, 1993), 2) prevention of work disruption, 3) involvement in productive work in a safe environment, and/or 4) development and implementation of an industrial rehabilitation work plan.

In injured worker rehabilitation, vocational evaluation has been used in a relatively circumscribed and restricted manner: to determine the employability of the worker through assessment of functional capacity, strengths and limitations, skills and aptitudes, and vocational interests. In industrial rehabilitation and disability management, functional work capacity must be assessed within the context of the work environment demands and requirements, recognizing that productivity is a function of the kinds of work performed, the characteristics of the work setting, and the changing functional abilities of the worker. There are several assessment strategies that can be used instrumentally with older workers to enhance vocational potential. These strategies include transferability of skills analysis, job analysis, ergonomic evaluation, work site risk analysis, and vocational evaluation.

Transferable Skill Analysis. The analysis of transferable skills is an aggressive proactive assessment procedure to prevent work disruption and identify realistic employment alternatives. The analysis considers the individual's education and work experience to identify a range of jobs:

- where same or lesser skills are required;
- where similar tools, equipment, or machinery are used; or
- where the same materials, procedures, subject matter, or services are involved.

The objective of a transferable skills analysis is to identify jobs that are compatible with the individual's present or expected functional capacity (Field, 1993).

For many older workers there is an extended period of time when the worker experiences gradual loss of specific functional abilities due to functional loss or cumulative trauma. During this time, analysis of transferable skills will function to identify performance abilities not impacted by impairment. The skill transfer analysis process will specify skills, knowledge, and abilities that may transfer to jobs or work fields that are within the individual's residual functional capacity.

Assessment of transferable skills is also important when technological change, or a changing labor market, results in jobs or job skills becoming obsolete. The prospect of job change or participation in retraining can be traumatic for the older worker, a worker who may have little confidence in his or her ability to learn or profit from retraining. Analysis of transferable skills facilitates a smooth transition to related jobs and highlights how individuals may be perform the essential job tasks within the new job.

Job Analysis. Job analysis is a formal and structured assessment process to identify job characteristics, including the functions, methods, and techniques used in performing the job, the worker characteristics (skills, aptitudes, knowledge, education) needed, and a description of the results of the work effort in terms of products, goods, or service.

Job analysis is a cornerstone of industrial rehabilitation practice. Information from functional capacity and other assessments is compared to job analysis information to make decisions about hiring, promoting, or terminating the individual, as well as developing accommodations or modifications to the work and work site. While formal job analysis considers the job and job requirements (RHAJ, 1991), evaluators must also modify the process and content to be responsive to the purpose of the analysis, the impairments of the worker, and specific characteristics of the job (Hursh, in press). For example, job analysis procedures and information may be structured around information needs to develop a job description that specifically identifies essential functions of the job. Another job analysis may be structured to identify the physical demand characteristics of a job that is resulting in high incidence of carpal tunnel disorders.

Ergonomic Evaluation. Ergonomic evaluation examines the motion, movement, body mechanic, and effort requirements involved in the use of tools, equipment, and machinery within a specific work setting. Ergonomics concentrates on workplace design related to tools, equipment, and machines, workplace layout, and the organization of work activity. The goal of ergonomic assessment is to fit the task to the person, rather than requiring the worker to adapt to the job (Grandjean, 1988). Information from the ergonomic evaluation is used in developing job accommodations, job modifications, and in applying rehabilitation technologies to the job or work site.

Ergonomic interventions have a direct prevention and work site safety objective. For the older worker who experiences cumulative trauma disorders resulting from factors such as repetitive work, awkward positioning, or excessive load lifting an ergonomic assessment is essential. In addition, development of ergonomically sound work stations has a positive effect on the production and wellness of all workers.

Work Site Risk Analysis. In addition to evaluating worker skills, information about the job and work site is developed. Work Site Risk Analysis provides an evaluation of the job activities and work settings, against the individual's functional capacities, through job and task analysis and ergonomic evaluation.

The goal of the work site risk analysis is: 1) to identify, reduce, or remove elements that constitute work hazards for the worker, 2) to recommend job accommodations, job or work site modifications, or adaptations to be used on machines or tools, 3) to recommend the use of assistive or augmentative devices to enhance productivity, or 4) to recommend how technological modifications can be used to substitute mechanical or electronic adaptations for the physical effort requirements of the job.

Vocational Evaluation. Vocational evaluation is a comprehensive and systematic process designed to explore and identify vocational alternatives, and maximize the vocational potential of the individual. For the older worker with a disability, vocational evaluation provides multiple functions, including

- Identification of residual skills, abilities, and aptitudes;
- Assessment of the individual's adjustment to the aging process, functional losses, or impairment;
- Evaluation of functional work capacities;
- Identification of barriers to return to work
- Clarification of return to work options:
  - Return to previous job
  - Adjusted or light work
  - New job directions
  - Retraining
  - Retirement

The evaluation process incorporates information from other disciplines, such as the medical, occupational, and physical therapist, and will provide assessments such as job analysis, transferable skills analysis, and work site analysis. The evaluation process results in an industrial rehabilitation plan to reduce work disruption, return the worker to suitable work activity, and promote sustained employment in a satisfying job.

Vocational evaluation explores the individual's adjustment to the aging process. The older worker often has fears about health and benefit loss, issues about worker role and the impact of disability on his or her family, suspicion about new technology, doubts about his or her retraining ability, confusion about progressive disability, and concern about the future. The evaluator must recognize and respond to adjustment issues and provide resources for the person to discuss them.

Vocational evaluation is particularly useful to older workers who may experience a period of work disruption due to injury and discovers that their previous job becomes unavailable or unrealistic. Other workers may benefit from vocational evaluation when productivity is decreasing, and accommodations, job transfer, or other adjustments are needed. The function of evaluation for both individuals is to identify the multiple options available, identify the services needed to promote work retention, and develop an industrial rehabilitation plan resulting in sustained employment.

Summary

The philosophy of rehabilitation is congruent with the needs of older workers with disabilities. Unfortunately, the practice of rehabilitation has not been responsive to the need (Bozarth, 1981). Individuals over 45 years of age represent only 23 percent of state vocational rehabilitation caseloads, compared to 50-60 percent of the disabled population (Bauman, Anderson, & Morrison, 1986). Counselors lack information about aging and disability and formulate inaccurate conclusions about work capacity and potential for employment of older individuals (Sax & Bauman, 1987). Too often, rehabilitation and health care professionals accept functional loss, physical decline, injury and dependence as an expected part of the aging process.

Vocational evaluation is an essential service component in industrial rehabilitation with older workers. Vocational evaluation is a proactive rehabilitation intervention utilized to prevent work disruption and to identify early-intervention rehabilitation strategies that minimize the impact of disability. Older workers also have unique adjustment issues related to disability and loss, role changes, and fears about change and an uncertain future that must be recognized and addressed. Evaluators must become familiar with work site evaluations and how evaluation interventions can be used to assist the older worker to expand options and make informed decisions about career and retirement planning.

References

Barry, J.R. (1981). Challenges of the future. Journal of Rehabilitation, 47, 4, 94-95.

Bauman, N.J., Anderson, J.C., and Morrison, M.H. (1986). Employment of the older disabled person: Current environment, outlook, and research needs. In S. Brody, and G. Ruff. Aging and Rehabilitation: Advances in the State of the Art. New York, NY: Springer Publishing Company.

Benedict, R.C., and Ganikos, M.L. (1981). Coming to terms with ageism in rehabilitation. Journal of Rehabilitation, 47, 4, 10-18.

Blake, R. (1981). Disabled older persons: A demographic analysis. Journal of Rehabilitation, 47, 4, 19-27.

Bowe, F.G. (1992). Empowerment: Dependence versus independence. OSERS News in Print, 5, 2, 4-7.

Bozarth, J.D. (1981). The rehabilitation process and older people. Journal of Rehabilitation, 47, 4, 28-32.

Bruyere, S.M., & Shrey, D.E. (1991). Disability management in industry: Joint labor-management initiatives. Rehabilitation Counseling Bulletin, 34, 3, 227-242.

Emener, W.G. (1991). An empowerment philosophy for rehabiltiation in the 20th century. Journal of Rehabilitation, 57, 7-12.

Field, T.F. (1993). Strategies for the rehabilitation consultant. Athens, GA: Elliott & Fitzpatrick, Inc.

Grandjean, E. (1988). Fitting the task to the man: A textbook of occupational ergonomics. Philadelphia, PA: Taylor and Francis, Inc.

Hahn, H. (1991). Alternatives of empowerment: Social services and civil rights. Journal of Rehabilitation, 57, 17-19.

Holland, B.E., and Falvo, D.R. (1990). Forgotten: Elderly persons with disability - A consequence of policy. Journal of Rehabilitation, 56, 2, 32-35.

Hursh, N.C. (In press). Essential skills in industrial rehabilitation and disability management: Implications for rehabiliation education. In D. Shrey & M. Lacerte (Eds.). Principles and pracices of disability management. Orlando, FL: PMD Press.

Hursh, N.C. (1988). Vocational evaluation with injured workers: First steps in vocational rehabilitation planning. Disability Manager, 1, 2, 4-6.

Kemp, B., Brummel-Smith, K., and Ramsdell, J. (1989). Geriatric Rehabilitation. Boston, MA: College-Hill Press.

Lewis, K. (1989). Persons with disabilities and the aging factor. Journal of Rehabilitation. 55, 4, 12-13.

Myers, J.E. (1987). Challenges for the older worker in the rehabilitation process. In L.G. Perlman and G.F. Austin (Eds.). The Aging Workforce: Implications for Rehabilitation. Alexandria, VA: National Rehabilitation Association.

Myers, J.E. (1986). Rehabilitation Counseling for older disabled persons: The state of the art. In T.F. Riggar, Maki, D.R.. and Wolff, A.W. Applied Rehabilitation Counseling. New York, NY: Springer Publishing Company.

Myers, J.E. (1983). Rehabilitation of older workers. Rehab Brief. Washington, D.C.: Department of Education, National Institute of Handicapped Research.

Nash, B.E. (1987). The state of the art: An overview of the world of work. In L.G. Perlman and G.F. Austin (Eds.). The Aging Workforce: Implications for Rehabilitation. Alexandria, VA: National Rehabilitation Association.

Revised handbook for analyzing jobs. (1991). Washington, DC: U.S. Department of Labor.

Robinson, P.K. (1986). Age, health, and job performance. In J.E. Birren, P.K. Robinson, and J.E. Livingston (Eds.). Age, Health, and Employment. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Sax, E.B., and Baumann, N.J. (1987). Options for equality of services for the older worker with a disability. In L.G. Perlman and G.F. Austin (Eds.). The Aging Workforce: Implications for Rehabilitation. Alexandria, VA: National Rehabilitation Association.

U.S. Department of Labor. (1990). Outlook 2000: The major trends. Occupational Outlook Quarterly, Spring, 3-7.

U.S. Department of Labor. (1989). Labor market problems of older workers. Washington, DC: U.S. Department of Labor.

Williams, T.F., and Jones, P.W. (1985). Rehabilitation in our aging society. Aging, 350, 2-3.

Williams, W., and Rice, B.D. (1987). The Future Workplace: Implications for Rehabilitation. Hot Springs, AK: Arkansas Research & Training Center in Vocational Rehabilitation.

Author

Norman C. Hursh, ScD, CRC, CVE
Director of Vocational Evaluation
Department of Rehabilitation Counseling
Boston University
635 Commonwealth Avenue
Boston, Massachusetts 02215

NATIONAL FORUM

VOCATIONAL ASSESSMENT OF INDIVIDUALS WITH TRAUMATIC BRAIN INJURY

Theresa Krankowski, CRC, CVE
Debra Culbertson, MA, CVE

Abstract

Limited research has been conducted to identify appropriate practices and evaluation techniques utilized for individuals with TBI. Due to the diversity and multidimensional needs of these individuals, standardized assessments alone appear to have limited utility.

It is the purpose of this article to focus on two practical assessment techniques that have proven to be effective with these individuals - situational assessment and on-the-job evaluation/work trials.

Rationale

The rationale for performing situational assessment and on-the-job evalution are as follows:

1. The client is provided with an opportunity to gain insight and self-awareness;

2. The client gains self confidence via the assessment experience;

3. A more focused vocational goal can be facilitated.

Others have noted the importance of these techniques with TBI patients. For example, Weinberger (1984) states:

> The evaluator was able to assess the types of specific work skills that the patient was capable of performing and devise an effective method for the patient to learn tasks while compensating for cognitive deficits. This information was invaluable when placing the patient in competitive employment (p. 253).

Both techniques provide excellent opportunities to incorporate instruction, training, adjustment, management, and modification / accommodation into the assessment process as a way of determining what works best for the individual (Thomas, S. 1992).

Initial Considerations

Prior to conducting either a situational assessment or on-the-job evaluation, it is critical that a thorough review of the individual's functional strengths and limitations be conducted (Thomas, D. 1990). Results of situational and on-the-job evaluations tend to have greater accuracy and validity when utilized as a significant component of a comprehensive vocational evaluation. The use of other assessment measures, (e.g. interviews, standardized work samples and assessments, and learning style inventories) may provide additional information about the person needed to ensure that the most appropriate assessment situations and sites are chosen, given one's current skills, abilities and interests (Thomas, S. 1992).

Ecological Validity

When assessing individuals with TBI, one must consider the importance of ecological validity (Thomas, D. 1990). A person with TBI may demonstrate competitive skills in a highly structured vocational evaluation setting, yet be unable to perform adequately in a real work situation (Balutanski, 1990). With this in mind, a situational assessment can be a very effective technique for evaluating work-related behaviors in a real or simulated work environment.

The Situational Assessment

A situational assessment is defined in the VEWAA Glossary (Fry and Botterbusch, 1988), as:

> The systematic observation process for evaluating work-related behaviors in a controlled work environment. Although any type of task or situation may be used, real work is most often used in order to add relevance. The element distinguishing situational assessment from other types of assessment is the capability of systematically varying demands in order to evaluate for work related behaviors (e.g. social skills, quantity of work, and use of materials). (p. 12)

This type of assessment is used both in-house and within the community to evaluate client behavior and performance (Thomas, S. 1992). For those individuals with TBI considering a return to pre-injury employment, this assessment can be invaluable to determine one's former skills. One reason for this is that certain tasks can be performed in isolation or in combination without overwhelming the individual, yet slowly enabling them to regain former skills.

Establishment of Situational Assessment Within the Evaluation Process

Procedures for establishing a situational assessment are as follows:

1. Identify the question(s) that you want answered in the assessment;
2. Decide how you will incorporate information obtained from an individual's employment site, such as a job analysis, job description, or job sample materials. (This component is critical for assessing an individual who is interested in returning to former or related employment);
3. Determine the task(s) you want the client to perform;
4. Identify the environment, time, and location of where the assessment will occur.

Questions that need to be answered in the situational assessment include:

1. What is the task being performed?
2. How is the task being completed?
3. What is the level of performance expected?
4. Under what environmental conditions will the task be performed?
5. What are the work behaviors being assessed?
6. How does the individual's cognition impact work performance?
7. What other physical, psychosocial, emotional, sensory or behavioral issues are impacting the individual's performance?

If the situational assessment results indicate the evaluee has potential in a specific work area, a job site evaluation can serve as an excellent way of further determining whether the individual can return to former, related employment, or a new occupational field (Thomas, S. 1992).

On-the-Job Evaluations

The VEWAA Glossary (Fry and Botterbusch, 1988), defines on-the-job evaluation as:

> An evaluation technique where the client performs the actual job duties in a real work situation. Performance is supervised and evaluated by the employer in coordination with evaluation staff. There is a predetermined beginning and ending date. It is not necessarily intended to result in employment. (p. 10).

Procedures for Establishing an On-the-Job Evaluation

There are several steps involved in setting up these evaluations. Specifically, the following items should be addressed:

1. Contact the employer and request that an on-the-job evaluation be conducted. Explain the procedure and purpose behind the evaluation;

2. Identify who will be involved in the evaluation and arrange for a date and time for the assessment to occur;

3. Discuss and plan with the employer the types of tasks that the client will attempt.

Important questions to be answered through an on-the-job evaluation include:

1. What is the client's capability to perform the essential functions of the job?

2. At what tasks was the client successful, and to what degree?

3. Has the client retained any preinjury skills and abilities?

4. How does the client's impairment(s) impact upon current performance in conjunction with former skills which were retained?

5. In what ways will the employer re-adjust expectations based on the client's present capabilities?

6. Based on this evaluation, what types of compensatory strategies or job site modifications can the client utilize?

Results of this technique are significant to determine how well the individual is able perform the above-mentioned tasks. Please refer to Table One (Critical Factors Associated With Individuals With TBI form) which has been developed for either situational assessments or on-the-job evaluations).

Modifications

On occasion, the individual with TBI may require an extended on-the-job evaluation or work trial as a way of assessing work behaviors over time. As stated by Balutanski (1990), a longer term work trial allows for observation of performance over time to determine:

"* consistency of performance over time;

* capacity for improvement (due to increased experience, one may be more able to effectively utilize compensatory strategies and develop self awareness);

* capacity for adapting to novel situations (by participating in a realistic work environment, the client may increase skills in adapting to a variety of circumstances)" (pp. 164-5).

Case Study

The following is an actual case study which illustrates how both situational assessment and on-the-job evaluation were utilized to assist an individual return to his job.

Medical History:

Jim was a 36 year old caucasian male who was originally seen for a suspected myocardial infarction after a boating accident and was discharged home. Five to seven days later, Jim complained of increased headaches and neck pain and was taken to the hospital after becoming increasingly confused. A CT (computerized Tomography - a scan utilized to reveal several areas of damage to the brain) scan of the head indicated a right frontal hemorrhage with ventricular size. An angiogram (a test to measure the degree of the aneurysm) showed left ophthalmic artery aneurysm of approximately 1.5 to 2 cm. in size.

Neuropsychological Information:

Results from the most recent neuropsychological assessment indicated deficits in the following areas:

1. Aphasia, characterized by dysfluent speech, impaired repetition, visual naming, and subtle comprehension difficulties;

2. Complex reasoning and problem solving;

3. New learning and recent memory;

4. Complex divided attention;

5. Retention of what had been learned;

6. Retrieval of information which had been cognitively stored.

Employment Information:

Jim worked for a major airline in Washington, DC. Throughout this time, Jim was employed as a customer service representative and shift supervisor. A few months before the accident, he worked in the operations department, in which he was responsible for recording flight times, weights and balances of aircraft, and release and commuter information.

Prior to the situational assessment, the following preliminary steps were conducted. First the evaluator met with Jim's employer and conducted a job analysis. Also obtained at that time was Jim's job description and job sample materials. Jim's memory regarding preinjury work responsibilities was tested by quizzing him on knowledge of airport codes, various codes associated with flight times, and weights and balances. Finally, Jim practiced his keyboard skills using the Typing Tutor software on a computer.

There were several avenues utilized to situationally assess Jim's preinjury skills and abilities. First he was engaged in simulated job training at the work site. He recorded verbal flight information which was administered 1:1. Also, Jim entered verbal flight information into the computer and was asked to make changes while many interruptions occurred.

The following vocational strengths and areas of concern were identified via situational assessment:

Vocational Strengths:

1. Capable of working and concentrating for two hours without a break;

2. Demonstrated ability to identify and remember airport codes;

3. Demonstrated knowledge of job requirements both in written and verbal format;

4. Capable of accurately entering date into computer with left hand; visual scanning had improved;

5. Capable of accurately understanding verbal information necessary to enter into the computer or load report;

6. Extremely conscientious of performing tasks accurately and demonstrating high quality of work.

Vocational Areas of Concern:

1. At times, Jim displayed difficulty shifting from one activity to the next;

2. Ability to integrate simultaneously multiple pieces of auditory information;

3. Recording written information in written format;

4. Expressive communication;

5. Functional use of left arm only;

6. Ability to endure 8 hour work day, both physically and cognitively.

Procedures to Establish an On-the-Job Evaluation:

The preliminary steps to conducting an on-the-job evaluation were noted as the following. First the evaluator contacted the employer to set up and establish the evaluation. Next, a list of questions was developed by each of Jim's therapists and compiled into a form to help focus the evaluation and target needed information about his cognition, speech, emotional tolerance, and bimanual coordination within his former work environment.

The on-the-job evaluation was conducted for one week. During this time he was evaluated for one day by the vocational assessment specialist, occupational therapist, and co-workers. For the remainder of the week, Jim was assessed by co-workers and his supervisor.

Results of the on-the-job evaluation indicated that Jim was capable of performing a majority of the essential job functions (3 of 5). It was also found that he had retained many of his preinjury work skills and abilities.

Four major vocational concerns were identified during the evaluation:

a. Jim experienced difficulty simultaneously holding a long computer printout sheet and tearing it into smaller parts, due to functional use of only his left arm;

b. He was unable to quickly assemble, fold and staple paper;

c. He was unable to secure papers on a revolving clipboard carousel;

d. He was unable to utilize the telephone and simultaneously write and record information.

The following accommodations were made at the job site for Jim:

a. Use of a paper cutter to cut the computer printout sheets into segments;

b. Use of an electric stapler and use of one hand to pick up papers;

c. Assembly of a plastic piece on the top of the metal clipboard carousel which provided additional leverage to open the clipboard with ease. Jim still utilized his chin in this maneuver;

d. By wearing a headset, Jim could still communicate by telephone and simultaneously use his functional hand to record information.

Conclusion

Situational assessments and on-the-job evaluations are two of the most effective evaluation techniques utilized with individuals with TBI. Both of these techniques increase the validity of the assessment process due to their ecological value. As a result of these assessment techniques, individuals with TBI can acquire self knowledge, self determination and self advocacy - three critical factors necessary in attaining one's vocational goal.

Debra Culbertson
National Rehab. Hospital
102 Irving St., N.W.
Washington, D.C. 20010

Table 1 - Sample Sheets from TBI Form

Critical Assessment Issues for Individuals With Traumatic Brain Injury

ISSUES RELATED TO WORK SKILL PERFORMANCE	RATING/COMMENTS
Modality of presentation most effective to facilitate learning	
"Carry over" of learning from day to day - including long term retention and ability to perform previously learned tasks without a learning phase	
Ability to learn new tasks	
Use of cues for task performance	
PLANNING AND ORGANIZATION	
Ability to plan a daily schedule	
Ability to plan and organize work area and materials	
INITIATIVE	
Ability to independently initiate a task once directions are given	
Appropriately seeks supervisor or evaluator when help is needed	
Demonstrates motivation and concern regarding performance and work activities	
DISTRACTIBILITY	
Ability to stay on task in the presence of external or internal stimuli	
Work speed and accuracy are consistent in both quiet, distraction-free environments as well as those which are loud and distractable	

MAINTENANCE OF SUSTAINED EFFORT	RATING/COMMENTS
Maintains interest in task through completion	
Maintains attention and concentration under conditions considered stressful to client	
Maintains attention and concentration through unstructured conditions	
PHYSICAL AND COGNITIVE AGILITY	
Ability to participate in conversations or answer questions in a timely manner	
Time factors do not reduce overall performance	
Work pace increases over time as client becomes more accustomed to task	
ALTERNATIVE WORK ASSIGNMENTS	
Ability to shift from task to task without distress or confusion	
Ability to stop one task in progress and perform another, then return to first task without re-orientation	
SIMULTANEOUS ACTIVITIES	
Ability to listen and write simultaneously (ie, take notes or phone message while caller is speaking)	

IMPULSIVITY	RATING/COMMENTS
Ability to begin an activity after waiting for complete instructions	
CONSISTENCY OF PERFORMANCE	
Ability to display consistent work pace, accuracy and level of commitment on a daily basis	
PROBLEM SOLVING ABILITY	
Ability to recognize problems and conceptualize solutions	
Ability to recognize work errors and attempt to correct them	
GENERALIZATION	
Ability to appropriately apply solutions learned from one task to new tasks	
SOCIAL APPROPRIATENESS	
Ability to appropriately interact with supervisors and co-workers	
Ability to control inappropriate behaviors during stressful situations (ie, work errors, rejection by others, personal problems)	

BEST COPY AVAILABLE

REFERENCES

Balutanski, J. (1990). Vocational Assessment: A VR Counselor's Perspective. In D.W. Corthell (Ed.) Traumatic Brain Injury and Vocational Rehabilitation (pp. 141 - 177). University of Wisconsin - Stout, Research and Training Center.

Fry, R.R. & Botterbusch, K.F. (1988). VEWAA Glossary. Menomonie, WI: University of Wisconsin - Stout, Materials Development Center.

Thomas, D. (1990). Vocational Evaluation of Persons with Traumatic Head Injury. In D.W. Corthell (Ed.), Traumatic Brain Injury and Vocational Rehabilitaiton (pp. 111 - 139). Menomonie: University of Wisconsin - Stout, Research and Training Center.

Thomas, S. (1992). Vocational Evaluation and Traumatic Brain Injury: A Procedural Manual. Menomonie, WI: University of Wisconsin - Stout, Materials Development Center.

Weinberger, J. (1984). The vocational evaluation of head injured patients. In C. Smith & R.R. Fry (Eds.), The issues papers: National forum on issues in vocational assessment (pp. 250 - 255). Menomonie, WI: University of Wisconsin - Stout, Materials Development Center.

Diary Entries:
The Vocational Challenges of a Woman with Disability

Karen L. Pell
Alabama Employment Alternatives Committee

Abstract

The impact of gender upon career development and rehabilitation outcome has been researched over the last two decades, measuring the influence of the feminist movement upon work opportunities for women with disabilities. This "diary entry," accompanied by explanatory notes, evolved from a review of the literature from 1985 to present. The purpose is to explore how women are socialized about work throughout their development. As this author documents, a woman seeking work still often has two handicaps, gender and disability. Vocational assessment personnel, in order to promote self-efficacy for their female clients or students, need to recognize and address social biases, through exploration, and experiential learning, planned risk-taking, and informed decision making.

I write this after another unsuccessful day of job hunting. It is discouraging, as I go out and promote my abilities, while everyone else seems to see only my disabilities. Am I really disabled? I would not be foolish enough to apply for jobs I can't do. Yet it seems everyone with whom I meet believes that I can't do the work. It seems like each of them has a handicap -- poor vision to see my potential. Who is it that has the disability? They or I? Some say that in reality, I have a work disability (1). The focus then shifts to where my disability impacts on my life -- at work.

Speaking of work, I look around for models and realize that there are very few women in my field, and of the few I see, very few of them are disabled (2). How alone I feel. Job hunting is a lonely search, made more so by the lack of peers and mentors who have shared my situation, as a woman with a disability.

As I struggle to explain the absence of these women in work roles, I am reminded that since I was a little girl, mentoring and promotion of my skills were different than those of my brother and the boys who attended school with me (3). They got different answers to the same questions; they were encouraged to play, talk, act, and reward themselves differently. Why, I remember the first time I was allowed to take a risk and fail. I was twenty-three years old! Shelter, protection, and ultimately isolation, those were the goals which my parents made for me. They didn't really want me to be alone; they just wanted me to be safe.

Oh, my parents! What a disappointment I was to them. Two healthy children, and then me, the broken one. How hard it was for them to realize that no amount of medical attention was going to fix me, and what I needed most was acceptance of all of me, my gifts and my challenges (4). In addition, I needed love and attention, as all children do. With such support I could grow to my highest potential. But they worried that I would be "hurt" so they kept me at home, helpless and dependent (5) until I finished graduate school!

You know, I don't think they ever believed that I could do it, until I finally crossed that stage, diploma in hand, waving my accomplishments in front of them, in a tangible form. Up until that time, my potential was invisible to them (6), and I felt I was invisible to them, except as that poor little girl who needed so much help to do everything. It was as if I finally grew up that day, at the ripe old age of twenty-five.

How did I ever decide to pursue this field? Certainly it was not because my family wanted me to do it. They expected me to wait at home and, upon their deaths, go to live with my siblings. Society expected that from me too (7). Thus, I was never allowed to experience any of the field trips, job tryouts, and other opportunities that my brother and sister and their friends did. Actually, when you think about it, home economics was my only "career" class and it was not even close to shop in terms of application to paid employment. And home ec for a girl with a disability was an even more restricted experience. How many times can you look at pictures in Good Housekeeping and believe that you were doing or learning anything useful for living alone in your own place and taking care of yourself (8)?

Now, of course, my parents would never think of letting me live alone. Not only because of my disability, but also because they expected both their daughters to prepare for a support role to their husbands. While my brother was encouraged to compete, to expect the best, and to learn from risks and failures, my sisters and I were reinforced for acquiescence, passivity, and safety (9).

Boy, did I show them wrong! Why, I graduated from a regular high school, went to college, and got my graduate degree. Reality is hitting me now, as I try to get my first real job. Both my gender and my disability appear to be real handicaps (10)! It seems that my invisibility was OK for me to work within the education system. I was able to learn, independently of what others expected or exposed me to. Work is another story, as I can't seem to get noticed. My invisibility isn't helping, it's hurting.

Even when I get a job, I probably will not earn the same amount as others, especially men. In talking to the few women whom I know who work (disabled or not), they all report that their wages are frequently lower, even for many jobs which involve the same level of responsibility (11). Waiters often get higher tips than waitresses, especially because restaurants that employ only waiters are considered more prestigious. Chefs are held in higher social esteem than cooks. Male bank tellers are targeted for management positions more quickly than women. Even professional women are labeled as "mommy" or "career" tracked, each with pay and esteem factors. The "mommy" track implies that women work intermittently around their children's needs, while the career track is felt to be a less "feminine" one, as women compete more aggressively with men. As my father says, women in careers are characterized as more strident feminists; he calls them mizzes [sic].

This is hard to accept for me, especially when I compare my education with other candidates. Thanks to my stubbornness, I was able to avoid the special education label, although it may have been helpful to have trained teachers who would and could adapt the curriculum of each class to my learning style and needs. Home ec might have been more than looking at magazines. However, I saw that more boys than girls were provided special education (12), which didn't make sense to me given that statistics show that there are more women with severe handicaps than men. They must all be tucked away at home and at institutions, safe from harm and from life.

How can I complain, here I am, with a home, a skill, a life. I have a good and "normal" education, but I find I can't get a job. When I talk to people about how to overcome this handicap, I keep hearing about the state agency for vocational rehabilitation. They provide services to people like me, including assistance finding a job. When I asked them who they helped, they said women like me. I am single and my family no longer can provide for me (13). Funny how I find my peer group at a state agency! Yet they tend to be older (14), struggling with the same issues, of support, of work, of self-esteem. In talking to one woman who shares the same counselor, I asked her why she waited so long to get help. She indicated that her family was willing to support her; upon the death of her parents, she was forced to look for help and/or a job (15). What an adjustment!

This woman, who has become a friend, has found a job, but the pay is such that she is earning much less than her male co-workers without disability. It is discouraging to learn from my counselor that many women are "successful" according to the agency's criteria; yet too many women are considered successful when they remain at home as homemakers (16). Back to reading Good Housekeeping! Whatever happened to non-traditional careers? This is the 1990's and yet...women are still not encouraged to take risks, at least not in this system (17).

The imbalance of earnings, of opportunity, of self-fulfillment is ironic in these times, as women now represent almost half the work force (18). Many of these women support children, and yet they are not viewed by employers for their potential according to their ability, they are viewed for their potential according to their gender.

There are a few rebels who break out of their "female bondage" and achieve. They are characterized as assertive, persistent, and highly motivated (19). You would have to be, to address all the myths and overcome the resistance. To win, you have to play harder and better than anyone else. That takes a special person, with a lot of energy, and natural resources (the skills to do it). I have those, yet I represent the unsuccessful ones right now.

There are federal laws and other incentives to employers to hire me. I am aware of the Americans with Disabilities Act. Employers will not be allowed to discriminate against me, if I am a qualified applicant for the job (20). Yet, as I learn about the law, I find I have to teach employers. They only know about quotas and affirmative action. I don't want to be a quota, yet I do want a job. If "threats" are what it takes to give me a second look, I'll use them. Because with a second look, I may be able to convince an employer to take a risk with me. To find such a risk taker, it seems that I need to be sure he is a male or at least a non-traditional female!

And once I make it, I will be a visible role model for others, to see that women with disability can work, can achieve, can succeed (21). I have much to teach others, as I am a guidance counselor (22).

Notes

1 Russo and Jansen (1988) recommend that focus on disability be localized to the environment of impact and shifted from the dysfunction of the individual, which is often stable and not changeable.

2 Consistently it has been reported (Danek & Lawrence, 1985; DeLoach, 1989) that more women than men are severely disabled, a classification of disability which involves complex medical/psychological impairment and significant impact upon life functions.

3 Gender role differences begin at birth, with different reinforcement from parents, teachers, and social peers. These role differences are found in all environments and activities, such as play, communication, chores, discipline, and reinforcement (Clarke-Stewart, Perlmutter, & Friedman, 1988).

4 In the social context of the family, a child with a disability is often viewed as broken and in need of fixing (Harris & Wideman, 1988). Adaptation to the child and her potential is a long and difficult process for many families.

5 Women with disability are often reared to be helpless and dependent, and are reinforced by family and society for that role (Fine and Asch, 1985).

6 In the absence of self-affirmation, the social development of many women with disability evolves into an "invisible" role in the community (Fine & Asch, 1985; Menz et al, 1989). This is evident in a concrete example, such as order taking at a restaurant, when a waiter will address another patron at the table to find out what the person with a disability wants to order and not address the person directly.

7 Career choice is shaped by cultural and societal expectations.

8 Learning experiences are shaped also by the same expectations as above; females are restricted in their exposure, following the same patterns of occupational choice as those roles defined for generations--homemaker, office helper, teacher, and nurse.

9 Clarke-Stewart, Perlmutter & Friedman (1988) restated how females are socialized to be non-competitive, to set lower standards, and to avoid risks.

10 It is in the work world that the person with a disability feels most excluded (Harris, 1986).

11 Women with disability earn 57 cents when compared to each dollar earned by a male without a disability (Russo & Jansen, 1988).

12 Statistics from Russo and Jansen (1988) found that more males than females were identified for special education.

13 Data collected on applicants to state-federal vocational rehabilitation services showed that most women were single, including those divorced, separated, or widowed, a rate higher than normal in the population (DeLoach, 1989; Menz et al, 1989; Danek & Lawrence, 1985; Harrison & Wayne, 1986; Johnson & Rubin, 1986).

14 Menz et al (1989) found that the greatest concentration of women by age who applied for state VR agency services were 45 - 64 years old.

15 Menz et al (1989) also found that while women are disabled in approximately equal proportions to men at earlier ages, they do not access services until they are older and the family support network is broken.

16 Other conclusions from the 1989 Menz et al study were that women were more successful in vocational rehabilitation in terms of data on "successful rehabilitation." However, they earned less and were placed as Homemakers more often.

17 Menz and Gilbert (1987) studied the assessment phase of the VR process and found that stereotyped occupational goals were established based on the gender of the client. Non-traditional occupations were not promoted for women.

18 In the next few years, women will represent 50% of the work force (DOL, 1990).

19 DeLoach (1989) described successful women with disability by these characteristics.

20 The Americans with Disabilities Act is a recent piece of anti-discrimination legislation that protects the rights of qualified workers with disabilities not to be denied access to work and to promotion due to disability.

21 There is a critical need for role models of women in non-traditional careers, especially women with disability. This modeling will teach all persons involved about the potential of these women to live rich and meaningful lives.

22 Broader application of theories of career development, as well as emphasis on seeing function and not dysfunction, is desperately needed in the field of guidance to integrate non-traditional careers into the educational experience (with support for it to carry over into the social and familial areas as well).

References

Clarke-Stewart, A., Perlmutter, M., & Friedman, S. (1988). Lifelong human development. New York: John Wiley & Sons.

Danek, M.M. & Lawrence, R.E. (1985). Women in rehabilitation: An analysis of state agency services to disabled women. Journal of Applied Rehabilitation Counseling, 16(1), 16-18.

DeLoach, C.P. Gender, career choice and occupational outcomes among college alumni with disabilities. Journal of Applied Rehabilitation Counseling, 20(4), 8-12.

Fine, M. & Asch, A. (1985). Disabled women: Sexism without the pedestal. In M.J. Deegan & N.A. Brooks (Eds.). (1985). Women and disability: The double handicap (pp. 6-22). New Brunswick, NJ: Transaction Books.

Harris, A. & Wideman, D. (1988). The construction of gender and disability in early attachment. In M. Fine & A. Asch (Eds.) Women with disabilities: Essays in psychology, culture, and politics (pp. 115-138). Philadelphia: Temple University Press.

Lou Harris & Associates. (1986). The ICD survey of disabled Americans. New York: Author.

Harrison, D.K. & Wayne, B. (1986). Status characteristics in rehabilitation accessibility: Gender influences. Journal of Applied Rehabilitation Counseling, 17 (4), 14-18.

Johnson, S. & Rubin, S.E. (1986). Prediction of starting weekly salaries of rehabilitated severely disabled women. Journal of Applied Rehabilitation Counseling, 17(1), 39-41.

Menz, F.E. & Gilbert, M.R. (1987). Gender-bias in synthesis and formulation of recommendations from vocational evaluation. VEWAA Bulletin, 20, 135-142.

Menz, F.E., Hansen, G., Smith, H., Brown, C., Ford, M. & McCrowey, G. (1989). Gender equity in access, services and benefits from vocational rehabilitation. Journal of Rehabilitation, 55(1), 31-40.

Russo, N.F. & Jansen, M.A. (1988). Women, work and disability: Opportunities and challenges. In M. Fine & A. Asch (Eds.) Women with disabilities: Essays in psychology, culture, and politics (pp. 229-244). Philadelphia: Temple University Press.

U.S. Department of Labor. (1990). Occupational outlook handbook. Washington, DC: Author.

Karen L. Pell, Executive Director
Alabama Employment Alternatives Committee
P.O. Box 11586
Montgomery, AL 36111-0586

VOCATIONAL EVALUATION: ISSUES IN WORKING WITH CLIENTS WHO ARE BLIND AND VISUALLY IMPAIRED

Donna L. May, M.Ed.

Abstract

This paper discusses various types of visual impairments, their functional implications, the impact these implications can have on a client's performance in a vocational assessment, some important factors to consider in the vocational evaluation process, and some techniques for adapting the testing situation for blind and visually impaired clients.

The population of legally blind persons includes not only those with no vision at all, but also persons having anything from light perception only to those able to travel visually and read regular print. The type and degree of vision loss can vary a great deal and can greatly affect the individual and his/her performance in a vocational evaluation.

Few commercial work samples systems are available which have been designed or adapted for use with the blind and visually impaired (Dickson, 1976; Vander Kolk, 1981; Kaskel, Dial, Chan, & Roldan, 1991). According to McBroom, Seaman, Graves, & Freeman (1988), of the work assessment instruments summarized in the Work Assessment Data Base, 48 were located that were developed or adapted for people with visual impairments. Of those 48, only 13 contain information on norms, reliability, or validity. Many were locally developed and are not commercially available. Most of the assessment instruments available are assembly, sorting, and dexterity tests (McBroom et al., 1988; Kaskel et al., 1991). In the absence of appropriately developed instruments, it is up to the vocational evaluator to find alternative ways or methods of assessing the vocational potential of their blind and visually impaired clients, or to adapt the testing situation for them.

This paper discusses various types of visual impairments, their functional implications, the impact these implications can have on a client's performance in a vocational assessment, some important factors to consider in the vocational evaluation process, and some techniques for adapting the testing situation for blind and visually impaired clients.

Types of Visual Impairments

The definition of legal blindness in the United States is a visual acuity for distance vision of 20/200 or less in the better eye with best correction or a visual field of 20 degrees or less (Rusalem, 1972; Napier, Kappan, Tuttle, Schrotberger, & Dennison, 1974; Genensky, 1980; Vander Kolk, 1981; Jose, 1983; Diehl & Green, 1992). "Best correction" means the best vision achieved with normal corrective lenses or spectacles. It does not include correction with low vision aids.

Variables which affect functional vision are age of onset of the visual problem, reduced acuity, constricted visual field, loss of color vision, illumination problems, fluctuating vision, and a combination of these.

Reduced Acuity

Reduced acuity is one of the most common problems of persons classified as legally blind. It causes objects to appear blurred or unclear (Jose, 1983). This can cause a client to miss or "not see" what a person with normal acuity would see, or to misunderstand or misinterpret what is seen. Increasing the size of the image usually helps the person see better. Optical aids are often used successfully.

Distance acuity. The Snellen Test is used to test central visual acuity. It consists of lines of letters in graded sizes. A similar chart containing only "E's", facing in different directions can be used (Diehl & Green, 1992). Distance vision is tested using the Snellen chart with a test distance of 20 feet. 20/20 is considered 100% or "perfect" vision and means that the person being tested sees at 20 feet what (according to norms) should be seen at 20 feet (Napier et al., 1974). When viewing the Snellen eye chart at a distance of 20 feet, persons are legally blind if they can see, at most, only the largest letter or the big "E" (Genensky, 1980). 20/200 vision means that the person sees no more at a distance of 20 feet than someone with normal vision can see at a distance of 200 feet. For acuities less than 20/200, the distance at which the 200 foot letter can be recognised is recorded as the numerator of the fraction, and 200 is the denominator. For example; 10/200 or 6/200 (Napier et al., 1974; Jose, 1983). If the 200 foot letter is not recognized at 1 foot, distance vision can be recorded as follows: CF (Counts Fingers); HM (Hand Movements or Hand Motion); LP (Light Perception or the ability to perceive light); and NLP (No Light Perception or total blindness) (Napier et al., 1974; Jose, 1983; Diehl & Green, 1992).

Near acuity. Near acuity can be expressed using the Jaeger scale, the Snellen chart scale, or standard A.M.A. notation. Near acuity is often expressed with a reading distance in inches. For example, 20/30 @ 12". This indicates that the person tested read the 20/30 size print at 12 inches away from the eye. At times, the near acuity for a person using a low vision aid is reported. For example, "20/70 with 14D reading glasses" indicates that the client read the 20/70 sized print using a pair of 14 diopter reading glasses.

It must be noted that individuals with the same visual acuity do not necessarily function the same visually. Some persons with very limited vision have learned to use it very well, while others have not. In fact, some may function better with very little vision than others do with significantly better vision (Bauman, 1968; Napier et al., 1974).

Constricted Visual Field

Field of Vision is the entire area which can be seen without shifting the gaze. Genensky (1980, p. 5) gave the following example as one way to understand the small visual field of a person who is legally blind due to a visual field restriction. He stated that "roughly speaking, persons are legally blind if their visual field is no bigger than that occupied by a 10-inch dinner plate viewed at about 28.4 inches". His example, however, describes the field of a person who has only a peripheral field loss. A field deficit may be central, peripheral, or a combination of both. One may have only patches of vision at various points in the visual field. He/she may report having no vision in one or more sectors of the visual field; objects disappearing to the right, left, top or bottom; or that parts of an object being viewed are missing (Jose, 1983; Diehl & Green 1992).

Central vision loss. Central vision provides color discrimination and allows for critical or sharp (exact) seeing tasks. Reading is a central vision task. Seldom can acuity be better than 20/200 if macula or central vision is lost. With this problem a person may wear no glasses, appear to see normally and not be able to do any critical vision task (Napier et al., 1974; Jose, 1983).

Peripheral vision loss. Peripheral vision provides awareness of movement, serves in dim light, and is critical for mobility. A total loss of peripheral vision results in tunnel vision. When a person with tunnel vision moves away from an object, he/she will see more of the object. It should be remembered that too much magnification may enlarge an image out of the range of usable vision (Napier et al., 1974; Diehl & Green, 1992).

Loss of Color Vision

Loss of color vision may be partial or total. It may accompany other visual impairments such as night blindness and a central visual field loss. Problems with color vision will probably not interfere with the vocational evaluation and will most likely not limit vocational options very much since most jobs do not require good color vision.

Illumination Problems

Illumination problems include photophobia (an over-sensitivity to light), problems with glare, problems adapting to changes in lighting, and night blindness (problems at night or in low light conditions). For the person with illumination problems, the presence of glare or the incorrect lighting condition will result in fatigue and/or an inability to function to his/her full capacity. This could greatly affect evaluation results!

Fluctuating Vision

Many individuals, particularly diabetics, experience weekly, daily or hourly fluctuations in vision. When working with a client who experiences fluctuating vision, the evaluation should include a description of how the person functions when his/her vision is at its best and how he/she functions when it is at its worst. Plans for future training or employment will need to take into consideration the possibility of both extremes and the possibility that the person may eventually lose all vision. Recommendations should include adaptations for varying degrees of vision and should not include training or a job that the person could not do if he/she lost total vision.

Age of Onset of visual impairment

The age of onset of the visual impairment can also make a big difference in a person's adjustment and performance, particularly in the case of total blindness. Persons losing significant or total vision before birth or shortly thereafter, up to the age of 3 years, are referred to as congenitally blind. Those losing vision after the age of 3 are termed adventitiously blind. There is some evidence that persons losing all functional vision before the age of 3 do not recall facts about their environment, such as colors, shapes, distance, size, and proportions (Vander Kolk, 1981). Adventitiously blind people are often helped by the memory of experiences with space, form, and other concepts. These memories may assist in mobility, orientation to a work space, manipulation of objects, and the understanding of instructions about a job (Bauman, 1975a).

It should be remembered that even when causes are similar, the particular difficulties which people with limited vision experience, may be quite different.

Important Factors in Evaluating a Visually Impaired Client

This paper is not intended to describe all of the skills or factors which need to be assessed when evaluating blind and visually impaired clients. It is intended to focus only on some of the factors which have special significance when evaluating this population and some of the factors which are unique to evaluating blind and visually impaired clients. Mary B. Dickson's Work sample evaluation of blind clients: Criteria for administration and development (1976) is an excellent resource for additional information. It is available through the Materials Development Center, Stout Vocational Rehabilitation Institute, University of Wisconsin-Stout, Menomonie, Wisconsin.

It is also important to note that many of the factors described in this paper cannot be assessed by the evaluator within the evaluation lab. The evaluator will have to rely on reports from other professionals who have worked with the client. It is crucial that such information be included in the vocational evaluation and that the evaluation not be based solely on work sample and psychological testing results. If the necessary factors have not been previously assessed, it may be appropriate, in the vocational evaluation report, to recommend that they be assessed.

It is also very important to take into account the client's work experience, education/training, hobbies, interests, goals, and motivation level, and to also evaluate blind and visually impaired clients for the skills for which one ordinarily evaluates non-visually impaired clients.

Blindness/Vision/Visual Functioning:

- Etiology & diagnosis - What is the visual condition and what caused it?
- Age of onset - Was it congenital or adventitious?
- Length of time since blindness

occurred - Was it recent or long ago? If the loss was recent, there is a good chance the client could still be experiencing some psycho-social difficulties in adjusting to the loss. If it was a long time ago, the client is much more likely to have learned to get information from sources other than vision.

- **Type of onset** - Was it a sudden loss or a gradual loss?
- **Prognosis** - Is the condition stable, progressive, uncertain, or could it improve? This will have implications for the type of jobs that may be recommended. For example, if the eye condition is progressive, it is unwise to recommend training for a job which would be impossible if further visual loss occurred (Bauman, 1975a).
- **Residual vision** - The remaining vision, including near acuity, distance acuity, and visual field.
- **Use of residual vision** - Did the client effectively use his/her residual vision? Keep in mind that two people with the same visual acuity and visual field will not necessarily function the same. The use of residual vision can be influenced by a number of factors, such as: intelligence; the length of time since the vision loss occurred; experience with visual tasks; motivation to use residual vision; personality, self-concept, and attitudes about the world; type and degree of correction possible; tolerance for visual tasks; and the amount of adjustment training the person has received (Barraga, 1976; Scholl & Schnar, 1976).
- **Use of low vision aids** - What aids were used and how well were they used? Many of the same factors which influence the use of residual vision can also influence the use of low vision aids (Diehl & Green, 1992).
- **Use of adaptive techniques** - What adaptive techniques were used and how effective were they?

Other Physical Limitations:

- **Secondary disabilities**
- **Physical restrictions** - People with visual impairments sometimes have restricted lifting, bending, stooping, and twisting to avoid further vision loss. This is especially true of persons at risk for retinal detachment.
- **Effects of medication** - Some medications produce ocular side effects. Familiarization with the drugs taken for the treatment of an ocular pathology, as well as drugs prescribed for any systemic condition, will alert the evaluator to the possible visual side effects. Common side effects include dilated pupils, sluggish pupils, blurry and/or fluctuating vision (Geruschat, 1980; Watson, 1980).

Reading: An assessment of reading may include print reading, braille reading or both. Such an assessment should include the following:

- **Reading rate** - The average fully sighted person reads approximately 350 words per minute. In this author's experience, 100 words per minute is a good reading speed for a person with good partial vision and should enable him/her to be competitive in a job which requires a minimal to moderate amount of reading, assuming the person also has good comprehension, good endurance, and the necessary reading level to perform the job. A good braille reader can read approximately 60-100 words per minute.
- **Reading comprehension**
- **Reading endurance** - For a print user, how long is he/she able to read before having to take a break or having to rest the eyes? How long must the break be before the client can resume reading? Does prolonged reading cause physical discomfort such as headache or dizziness? For a braille user, how long can he/she read before losing sensitivity in the fingers. This is especially important for diabetic clients who may have neuropathy in their fingers.
- **Size of print read**

Other Communication Skills:

- **Handwriting** - Is the writing legible and of appropriate size? Can the client write in print and cursive?
- **Typing** - Both speed and accuracy are important, as well as the ability to format work appropriately.
- **Recording** - Can the client use cassette recorders as a means of self-communication?
- **Listening** - Is the client able to pay attention to, understand, and remember

BEST COPY AVAILABLE

verbal instructions or conversation?

- Use of adaptive equipment/technology - This can include adaptive braille, computer, or other equipment.

Orientation & Mobility Skills:

- To the work space
- To the evaluation lab/room
- To the building
- In a neighborhood
- In a downtown area
- In familiar environments
- In new environments
- Degree of assistance needed
- Ability to learn or improve over time

Behavioral Observations:

- Acceptance of blindness and ability to discuss it
- Reaction to assistance
- Ability/willingness to ask for assistance
- Appearance/dress
- Blindisms - These are unusual mannerisms or repetitive movements such as rocking, head twisting, eye poking, or twirling which could interfere with the acceptance of the client in the workplace (Dickson, 1976).
- Ability to generalize from one situation to another
- Ability to learn with experience or practice

Other:

- Tactual discrimination
- Ability to use tactual cues - Some visually impaired persons have a tendency to over-rely on their vision. They attempt to rely on their vision beyond their actual abilities and do not develop other sense modalities, such as the tactual (Hoffman, 1970). This is seen, for example, when a person moves his/her head very close to the object on which he/she is working and makes no attempt to use tactual cues to assist in understanding or dealing with the situation. In this situation, the evaluator could recommend that the client be taught how to rely on modalities other than vision.
- Ability to grasp and retain tactual information
- Knowledge of the world of work - Visually impaired clients, especially the congenitally blind, often have more limited life experiences than fully sighted persons of the same age. They can't visually observe people doing their jobs as easily as fully sighted people do, they may have been overprotected and not allowed to do as many activities around the house such as fixing things, and they will not have learned to drive and care for a car at age 16 like most other teenagers.
- Various aspects of the geographical area where the client will be returning or relocating - Will it be rural or urban? Will there be public transportation?

Ways the Testing Situation Can Be Adapted for Blind and Visually Impaired Clients

It should be noted that this paper will not focus on "high tech" adaptations, but will, instead, emphasize methods and techniques which can be utilized by evaluators who do not have access to high tech equipment.

The client should always be oriented to the testing situation and to what he/she can expect during the evaluation. The evaluator may want to describe the room, its contents, where the windows and doors are located, etc. or to guide the client around the room, showing him/her where these things are. All of these activities help the client become more familiar and more comfortable with the setting in which he/she will be tested (Scholl & Schnar, 1976).

Use of Visual/Optical Aids

Optical aids are "aids that incorporate special lenses and prisms in powers greater than the refractive error for the purpose of enlarging an image" (Watson, 1980, p. 308).

Generally, the more frequently low vision aids are used, the better one is able to use and benefit from them. There are three kinds of visual aids; near aids, intermediate aids, and distance aids.

Near aids. Examples of near aids are spectacles or reading glasses, stand magnifiers, and handheld magnifiers. It is important to understand the basic concepts about the use of low vision aids in order to determine if the client is using them properly. With reading glasses, the print generally must be held close to the eye. "As magnification increases the client must hold the material closer. Distance can range from 8-10 inches with weaker magnification to 1/2 inch or less with extremely strong magnification" (Diehl & Green, 1992, p. 2). Stand magnifiers should be placed directly on the page. Handheld magnifiers should be held a few inches away from the page.

Intermediate aids. "Intermediate vision is generally considered to be a distance from 16 inches to three feet. However, it is difficult to define precisely because many near, intermediate, and distance tasks overlap" (Diehl & Green, 1992, p.3). Examples of intermediate aids are the Big Eye Lamp (a gooseneck lamp with a magnifier attached) which can be used for such intermediate tasks as hand sewing or writing, and the Closed Circuit Television which can be used for writing or typing. Other intermediate tasks include drawing, cooking, and reading a computer screen.

Distance aids. Monoculars are the most common type of distance aids. There are hand held and mounted monoculars. Some monoculars will focus only if objects being viewed are at least 6 feet or more away. Short focus monoculars will focus as close as 12". Monoculars are most often used as a distance aid for activities such as reading street signs, watching sporting events, reading the blackboard, and driving. However, short focus monoculars, usually mounted, may be used for near work, such as reading, or intermediate work, such as reading music or a computer screen. It should be noted that most monoculars limit the field of vision, and should be used only when the person is standing or sitting still (Diehl & Green, 1992).

The evaluator should discuss with the client the types of low vision aids he/she has and whether he/she prefers to use them under the conditions that are typical of what will be expected in the testing situation. Generally, the client is considered the best judge of when to use or not use a low vision aid, and of which aid to use in a certain situation (Scholl & Schnar, 1976).

Use of Non-optical Aids

Non-optical aids are "devices which are not lenses, but make using vision easier" (Watson, 1980, p. 308). Examples of non-optical aids are a lamp, a reading stand, a lap desk, indoor sunwear, a line guide/line marker, handwriting guides, and an abacus.

Environmental Modifications

Lighting. Lighting is a very important factor when working with visually impaired persons. The amount of light needed will vary with the individual. Although most partially-sighted people need relatively high light levels, remember that a few may benefit from less light (The Electricity Council and the Partially Sighted Society). Lighting requirements can also vary according to the task being performed. For example, a person may need bright light for reading and average lighting for other activities; thus, it is important to be able to vary the lighting conditions. It is best to have variable light controls, but if this is not possible, having various options such as moving to a better-lit or less-lit part of the room, moving to a room where the overhead light can be left off, or using various lamps, will suffice.

The position of the light to the person can also be important. If the client is using a low vision aid, it is usually best to direct the light between the low vision aid and the work material to avoid shadows. Also, the light should be on the side of the better eye (Diehl & Green, 1992).

Glare. There are many visual conditions which make a person extremely sensitive to glare. Glare can be very fatiguing to those sensitive to it, and it can affect their performance in a negative way. Glare should be eliminated as much as possible. This can be done in many ways. For example, the client may choose to wear indoor sunglasses or a visor. Colored filters or sheets of acetate can be placed over reading materials or computer screens to reduce glare. Glare from the table top can be reduced by laying a non-glare matte, such as a desk pad, over the surface.

Many people prefer to use the Closed Circuit Television or computer in a room where the overhead light can be turned off to reduce the glare on the screen.

Color contrast. Even the complete absence of glare and the most appropriate lighting may do little to help a visually impaired person to see an object if there is insufficient color contrast between it and its background. For example, a person with a visual impairment can be given the most accommodating lenses and lighting for the purpose of determining the confines of this page, but if the table upon which it rests has a color value similar to that of the paper, neither lens nor lighting will help the person see it better. On the other hand, a table darker in color than the page would be a great help (Sicurella, 1977). Studies indicate that the degree of contrast affects performance and that what constitutes an optimum contrast varies with the individual and the task characteristics (Miles, Cook, Heurtas, & Lyon, 1984).

Organization of the work space. In some cases, improving the organization of a work space may be the only modification necessary to administer a work sample to a visually impaired or blind client. Having a well organized work space will prevent the client from wasting time searching for his/her tools and materials (Bauman, 1975b).

Test Taking Modifications

"Paper and pencil tests" can be administered in several different ways. They are as follows: in braille; in large print; on tape; orally; or in a combination of these (Peterson, 1982). Remember that the client is usually the best source for determining which method works best for him/her (Scholl & Schnar, 1976).

Test Response Modifications:

- Oral answers
- Numbered index cards for answers - Index cards can be numbered in large print and/or braille and can be used to answer questions by placing the card in a particular spot for the desired answer. Cards can be placed in wooden bins, boxes, or plastic containers (Peterson, 1982).
- Use of a felt tip pen to write - Often a client can read back what he/she has written simply by using a felt tip pen. This makes the writing much darker than a regular pen or a pencil and improves the contrast between the writing and the page.
- Use of large lined and/or bold lined paper
- Use of a large print answer sheet
- Use of unlined paper
- Use of a special writing guide
- Braille out answers
- Use of a braille answer sheet
- Typed answers
- Taped answers
- Write answers directly on the test

Techniques:

- Be able to provide individual attention
- Orient the person to the work sample - It is very important for the client to fully understand the layout of a work sample, where all of the parts are, and exactly what he/she is to do before being tested or timed. A fully sighted person needs only a few seconds to visualize the layout and pieces involved in a task, and to get a general idea of what he/she will be required to do. However, a blind client cannot use vision to acclimate himself/herself to what is required. Besides the verbal instructions, a totally blind client may need a tactual orientation to the work sample. In this case the evaluator should describe the layout of the work sample and the tools to be used and give the instructions verbally. The evaluator should guide the client's hands over the parts as they are mentioned. Then the client should be allowed to go over them at least once more, name the parts and ask questions. Sufficient time should be allowed for this process. (Bauman, 1968; Hoffman, 1970; Dickson, 1976; Peterson, 1982).
- Go over the format/layout of the written tests - Many written tests have information, such as charts and diagrams, located in the center of the page, or questions or problems in two columns on the page. This can be a problem for the client with a visual field restriction or one using a powerful magnifier or pair of reading glasses. In each of these situations, the client sees only a small portion of the page at once and can very easily miss material not flush with the left hand margin. Therefore, it is important to alert the client to the fact that there will be information elsewhere on the page so that he/she does not accidently overlook it.
- Allow more practice time if necessary - It takes more time to get information tactually than visually. It is important that the work sample not be a test of the client's learning ability unless it is designed to be such. If more than the usual practice time is needed for the client to learn the task, it should be given. If the evaluator wants to know how long it takes the client to become familiar with a task, he/she may time this period, but it should be called the learning period and must not be timed along with the performance of the actual work sample (Bauman, 1975b; Dickson, 1976; Peterson, 1982).
- Test in short intervals - For any visually impaired client, it must be remembered that fatigue may make lengthy testing sessions impossible. Several shorter sessions are preferable (Hoffman, 1970; Scholl & Schnar, 1976).

- **Allow breaks** - Often times with individuals who have only partial vision, the eyes become easily fatigued in comparison to fully sighted individuals. Thus, even when testing in intervals which are shorter than the average evaluation interval, it may still be necessary to offer rest periods. The length of working times can be assessed and become part of the evaluation (Hoffman, 1970; Currie, 1975; Scholl & Schnar, 1976).
- **Allow more time to complete tests if necessary** - As stated earlier, most visually impaired persons read at a reduced rate. Braille cannot be read as fast as print simply because it takes longer to touch each word than to glance at them. Thus, it will take longer for a visually impaired or blind client to complete a test which must be read. In order to ensure that the client has had adequate opportunity to get through the test additional time must be given (Peterson, 1982). This is especially important when items in the test increase in difficulty as the test progresses. The evaluator will want to be sure that the client gets far enough into the test to encounter the more difficult items.
- **Allow the person to get closer to testing materials or tools or to move them around, if necessary** - Often the client's performance can be improved by simply getting closer to the testing materials to see them better, by rearranging them within the visual field, or by better organizing them (Scholl & Schnar, 1976).
- **Be flexible--allow the client to do something a little differently if that's what it takes** - Don't be afraid to deviate from the prescribed procedures if that's what it takes to get information. Yes, it will invalidate the norms, but it is better to get some useful information than to administer a test according to the standard procedure and get biased, useless information.

Summary

The population of legally blind persons is a heterogenous group, varying in many ways, including degree of residual vision, type of visual impairment, age of onset, and the use of residual vision. These differences can greatly affect the person and his/her performance in a vocational evaluation. There are a number of factors which are unique, or have special significance, when evaluating these clients. There is also a lack of appropriately developed vocational evaluation instruments. Thus, it is often necessary for the vocational evaluator to adapt the testing situation for his/her blind and visually impaired clients. While this can be a very complex task, there are a number of simple, yet effective ways to accomplish this. They include the use of optical and non-optical aids, environmental modifications, test taking and test response modifications, and a variety of adaptive techniques.

References

Barraga, N. C. (1976). Utilization of low vision in adults who are severely visually handicapped. New Outlook for the Blind, 70, 177-181.

Bauman, M. K. (1968). A Report and a reprint: Tests used in the psychological evaluation of blind and visually handicapped persons & A manual of norms for tests used in counseling blind persons. Washington, D.C.: American Association of Workers for the Blind.

Bauman, M. K. (1975a). Guided vocational choice. New Outlook for the Blind, 69, 354-360.

Bauman, M. K. (Ed.) (1975b). Use of work samples with blind clients. Philadelphia: Nevil Interagency Referral Service.

Currie, L. E. (1975). Work evaluation of the visually impaired: A prospective. New Outlook for the Blind, 69, 443-444, 446.

Dickson, M. B. (1976). Work sample evaluation of blind clients: Criteria for administration and development. Menomonie, WI: University of Wisconsin-Stout, Stout Vocational Rehabilitation Institute, Materials Development Center.

Diehl, J. & Green, J. (1992). (Almost) everything you always wanted to know about low vision. Unpublished manuscript.

The Electricity Council and the Partially Sighted Society. Lighting and low vision (Report). London: Author.

Genensky, S. (1980, August). The low vision population: Rehabilitation challenge for the future. In M. Beliveau & A. J. Smith (Eds.), The Interdisciplinary Approach to Low Vision Rehabilitation. Prepared for The National Training Workshop in Low Vision, Chicago.

Geruschat, D. R. (1980, August). Functional implications of common pathologies of the eye. In M. Beliveau & A. J. Smith (Eds.), The Interdisciplinary Approach to Low Vision Rehabilitation. Prepared for The National Training Workshop in Low Vision, Chicago.

Hoffman, P. R. (1970). Problems of evaluating the visually impaired. Information Bulletin, Institute for Vocational Rehabilitation, Stout State University, 2(4).

Jose, R. T. (Ed.) (1983). Understanding low vision. New York: American Foundation for the Blind.

Kaskel, L. M., Dial, J. G., Chan, F., & Roldan, G. (1991). Evaluating work potential of persons with visual impairments: The Comprehensive Vocational Evaluation System (CVES) approach, Proceedings of the Fifth National Forum on Issues in Vocational Assessement, (pp 168-173). Menomonie, WI: University of Wisconsin-Stout, Stout Vocational Rehabilitation Institute, Materials Development Center.

McBroom, L. W., Seaman, J., Graves, W. H., & Freeman, D. (1988). Work assessment instruments for the vocational evaluation of people with visual disabilities (Technical Report). Mississippi State: Mississippi State University, Rehabilitation Research and Training Center in Blindness and Low Vision.

Miles, S. M., Cook, D., Heurtas, V., & Lyon, S. (1984). Productivity and comfort of the visually impaired worker as a function of low vision aid usage and illumination/color contrast modifications (Technical Report). Mississippi State: Mississippi State University, Rehabilitation Research and Training Center in Blindness and Low Vision.

Napier, G. D., Kappan, D. L., Tuttle, D. W., Schrotberger, & Dennison, A. L. (1974). Handbook for teachers of the visually handicapped (3rd ed.). Louisville, KY: American Printing House for the Blind.

Peterson, M. (1982). Vocational assessment of the visually impaired. Mississippi State, MS: Mississippi State University, Rehabilitation Research and Training Center in Blindness and Low Vision.

Rusalem, H. (1972). Coping with the unseen environment: An introduction to the vocational rehabilitation of blind persons. New York: Teachers College Press, Teachers College, Columbia University.

Scholl, G. & Schnar, R. (1976). Measures of psychological, vocational, & educational functioning in the blind and visually handicapped. New York: American Foundation for the Blind.

Sicurella, V. J. (1977). Color contrast as an aid for visually impaired persons. Journal of Visual Imapirment and Blindness, 77, 252-257.

Vander Kolk, C. J. (1981). Assessment and planning with the visually impaired. Baltimore: University Park Press.

Watson, G. (1980, August). Training with near and intermediate optical and non-optical aids. In M. Beliveau & A. J. Smith (Eds.), The Interdisciplinary Approach to Low Vision Rehabilitation. Prepared for The National Training Workshop in Low Vision, Chicago.

Donna L. May, M.Ed.
Vocational Evaluator
Virginia Rehab. Center for the Blind
401 Azalea Avenue
Richmond, Virginia 23227

The Relationship Between Vocational Decision-Making and Employment Outcomes For Individuals with Traumatic Brain Injuries

Shirley K. Chandler, M.S., C.R.C.
The University of Texas Southwestern Medical Center at Dallas

ABSTRACT

Traumatic brain injuries lead all other forms of head injury, with over 1.5 million individuals experiencing traumatic brain injury every year. Over half now survive, with 300,000 to 500,000 individuals left with severe disabilities. Traumatic brain injuries impact upon physical, psychological, cognitive and behavioral functioning. Research has shown that a majority of individuals with TBI do not return to work post-injury, and are not successful when they attempt to return. Various studies have found that up to 73% of the individuals who sustained brain injuries were unemployed post-injury. There is a clear link between vocational status, financial independence, and self-esteem. Therefore vocational outcomes are extremely important areas in head injury research. This study examined whether certain characteristics of individuals who have sustained traumatic brain injuries were related to their ability to make vocational decisions. A broad range of current vocational indicators were examined to determine successful vocational outcome. The relationship between vocational decision-making skills and successful vocational outcomes were also examined. Predictors included demographics, medical, psychological, and vocational variables. Individual interviews were also conducted, and data were collected on updated social, vocational, educational, medical and psychological areas, as well as through the administration of the ***Vocational Decision-Making Interview-Revised (VDMI-R).***

Introduction

Every year, between 1.5 and 2 million individuals incur some form of traumatic brain injury, at a cost of between $12 and $24 billion annually (Bontke, 1990; Ditunno, 1992; National Head Injury Foundation, 1990; Sahgal & Heinemann, 1989; Wehman, Kreutzer, Wood, Stonnington, Diambra & Morton, 1989). Of this number, over half now survive, with 300,000 to 500,000 individuals left with severe disabilities. For individuals with traumatic brain injuries, there is the sudden loss of their former self, and many times the resultant loss of friends, their spouse or other significant individual, their former job or level of employment, and their dreams for their future as it existed prior to their injury. Numerous research studies have shown that an overwhelming number of these individuals do not return to work post-injury, nor are they successful when they do attempt a return.

Many individuals with traumatic brain injuries hold unrealistic vocational expectations because of their diminished self-insight and lowered ability to problem solve and perceive situations correctly, thus leading to unrealistic vocational decision-making (DeBoskey, Burton & Calub 1989; Veach & Taylor 1989).

The overall problem addressed in this study was to identify some of the major critical variables which predict successful versus unsuccessful vocational outcomes for individuals with traumatic brain injuries. Predictor and outcome variables included: (a) age at the time of the injury; (b) gender; (c) history of seizures; (d) educational background prior to the injury; (e) percentage of time employed and number of jobs prior to injury; (f) length of time between injury and admission to Baylor; (g) duration of in-patient and out-patient services; (h) level of severity of brain injury (total of coma and/or amnesia hours); and (i) pre-injury drug and alcohol use. Vocational outcome was assessed by the following types of variables: (a) post-injury educational activities; (b) number of hours worked (i.e. part-time/full time employment); (c) number of jobs post-injury; (d) length of time on the job; (e) type of employment (i.e. competitive, sheltered, supported, transitional); (f) pre- and post-injury salary information; and (g) satisfaction with vocational status (Harris & Hollingsworth 1980; Hollingsworth & Harris 1980; Vieceli 1986). A complete list of all variables can be found at the end of this article.

Society continues to regard the worth of individuals by whether or not they are employed (Bolger, 1983). Individuals with traumatic brain injuries must overcome a myriad of obstacles as they attempt to return to work post-injury. Perhaps the greatest challenge facing rehabilitation professionals who deal with individuals who have sustained traumatic brain injuries is to assist them in both finding and maintaining employment (Wehman, Kreutzer, Sale, West, Morton & Diambra, 1989).

Method

Initially, a 694 case data base, spanning a 10-year period, was established. The 65 participants in this study were selected from this subpopulation.

Demographic, medical, psychological, vocational, and other data was collected. After collecting archival data, face to face interviews were conducted with 65 individuals, who were between the ages of 20 and 40 when they sustained traumatic brain injuries. The interview process included the collection of updated vocational, educational, and medical data, as well as the administration of the ***Revised Vocational Decision-Making Interview* (VDMI-R)** instrument (Czerlinsky & Chandler, 1992).

The instrument consists of three scales: (1) Decision-Making Readiness; (2) Employment Readiness; and (3) Self Appraisal. On Decision-Making Readiness, participants are questioned about the types of jobs they are considering. Participants are also asked to respond to questions on job responsibilities, knowledge, and benefits. On Employment Readiness, the participants are asked about their ability to make job choices and consider salary issues, and to discuss family support. On Self Appraisal, the participants are asked about their skills, the jobs they would not consider, the types of training necessary for their selections, and the effects their disability has on the types of work they can do (Czerlinsky & Chandler, 1992).

Demographics of the Sample

At the time of this study, the individuals in the sample ranged in age from 20 to 46 with a mean of 31.5 years. Males comprised 63.6%. Ethnic backgrounds of those individuals in the sample included: 1) Caucasian - 84.6% (n=55); 2) Hispanic - 7.7% (n=5); and 3) African-American - 7.7% (n=5).

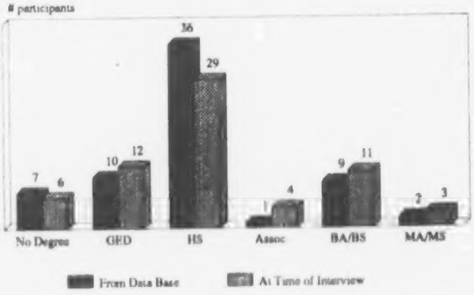
Cause of Accident: The foremost cause of injury was motor-vehicles accidents, with 41 individuals (63.1%) sustaining injuries in this manner. Motorcycle accidents were the second highest cause (10.8%, n=7), with pedestrian accidents and falls as the third and fourth most frequent cause. Major medical funding sources were private insurance and Worker's Compensation benefits.

Medical: The amount of time from date of injury to admittance ranged from 8 days to 1 3/4 years after injury, with an average of 72 days. The amount of in-patient time ranged from 10 days to 239 days, with an average of 65 days, while out-patient time ranged from 1 to 446 days, with and average of 77 days. Coma length ranged from 0 (no coma) to 120 days, with a mean of 20 days.

Pre-injury substance abuse histories were available on 39 individuals, with 39% of this population having no pre-existing alcohol or drug use, and (36%) having had a history of excessive alcohol or drug use at the time of the injury.

Educational and Vocational: Individuals in this sample listed educational backgrounds that ranged from 6 to 18 years of education, with a mean of 12.8 years. Only 7 individuals in the sample had no degree, while 10 had GED's, 36 had High School diplomas, and 12 individuals had post-high school degrees (See Figure 1).

Figure 1
Educ. History - Highest Degree (n=65)



All of the participants were employed either full or part-time, with the exception of one full-time student. The majority of the individuals were employed in professional/technical/managerial, or clerical/sales positions (See Figure 2a).

Figure 2a
Pre-Injury Job Categories

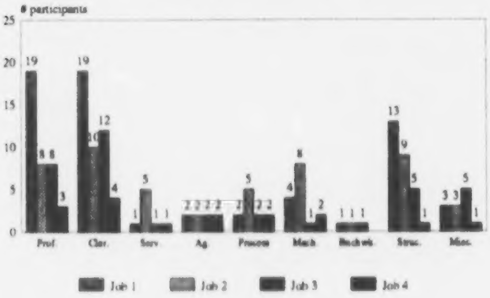
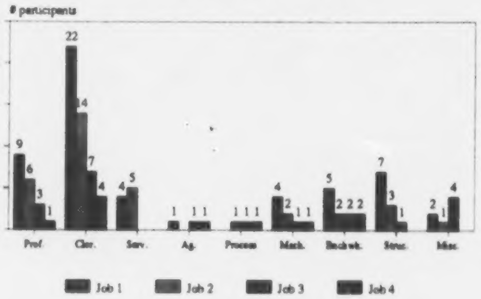


Figure 2b
Post-Injury Job Categories



Family Dynamics: Thirty-four individuals in the sample were single at the time of the accident, and 19 were married. At discharge, one individual had separated from his wife (See Figure 4).

Twenty-two of these individuals resided with their parents and 19 with their spouses at injury. At discharge 27 resided with their parents, and 14 resided with their spouse. An additional 12 individuals resided in nursing homes or other rehabilitation centers after discharge.

Interview Data

The descriptive information in this next section was obtained from the follow-up interviews with the participants.

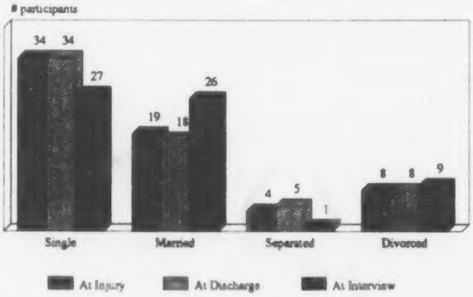
Educational and Vocational: Post-discharge educational activities were responsible for an increase in the number of years of education for the individuals in the sample. The total number of years of education ranged from 6 to 18 years, with a mean of 13.5 years. The number of individuals who did not have either a GED, a high school or a college degree dropped to six (See Figure 1).

Follow-up vocational data showed that 54 of the 65 individuals had held at least one job since their injury, with the majority of these individuals employed full time. Most of these individuals were employed in clerical positions and the second largest employment category was in structural positions (See Figure 2b).

Of these individuals, 17 were still employed in their same job at the time of the interview. For those individuals who did not retain their initial post-injury jobs, 11 stated that the major reason was an "inability to perform the duties of the job due to their disability." Thirty-four individuals were employed in a second job, with 25 working full time. The majority of these jobs were again in the area of clerical/sales. Of these 34 individuals, 13 were still employed in that job at the time of the interview. Termination reasons given by those who were no longer working were almost equally divided between quit (personality conflicts), company closures, and an inability to perform the job due to the disability.

Family Dynamics: At the time of discharge, 18 individuals in the sample were married, while at the time of interview, this number had increased to 26, and an additional two individuals were living with a significant other (See Figure 4). The number of individuals who resided with their parents had dropped to 20. Four individuals (2 female and 2 males) had new children in the household since their discharge. Of the 12 individuals residing in nursing homes or other rehabilitation centers after discharge, only three remained in this setting at the time of the interview.

Figure 4
Marital Status (n=65)



Results

Individuals who had an unstable job history prior to their injury continued to have difficulty after their injury. The higher the number of jobs pre-injury, the fewer number of hours per week that individual was likely to work post-injury. Additionally, for those individuals who had a greater number of jobs prior to the injury, employment after discharge tended to be part-time, with individuals working at a series of jobs, with less months on each subsequent job. Marital status and living situations at discharge were significant predictors of whether individuals would return to their previous job after discharge. Individuals who were married and lived with their spouse tended to return to the job they held prior to their injury more than those who were single and lived with their parents. The interpretation for this can be found in part by the fact that many individuals returned to their parents' homes in the Dallas area, for post-acute care. These individuals completed their rehabilitation programs in Dallas, but were unwilling (or unable) to return to their prior jobs. For many, having the security of parents who resided nearby, or that they resided with, was more important than the previous job. One young man, aged 38, whose father and mother were both retired, has established a comfortable lifestyle of watching TV, playing cards and visiting neighbors with his parents. He had convinced himself that he was too disabled to return to his previous job (truck driver) or any other type of job, and his parents, who enjoyed his company, supported this concept. Another young man (30 years of age) received a very large settlement from a lawsuit against a motorcycle helmet company and had purchased an expensive home in the suburbs. He did not need to work, and only sporadically attended a junior college for "something to do."

Age at the time of injury and pre-injury salary level were significant predictors of post-injury level of salary, with the current level of salary being higher for those individuals who were older at the time of the injury, and whose salary level was higher at the time of the injury (See Figure 3). For many of those individuals who were older, careers had already been established. They had acquired college degrees, and they were employed in professional or managerial jobs at the time of the injury. Therefore, it would be expected that they would attain a higher income level after the injury. For three individuals in this study, returning to an established career meant returning to a business they had owned prior to the injury.

Although traumatic brain injury did not seriously effect the earning potential for many of the individuals in this sample, the impact was much more serious for several others. Three businesses failed while their owners were in the hospital (insurance appraisal business, and two building contracting firms), and several women were unable to continue their lucrative careers (flight attendant, district manager for a computer company, corporate assistant for a brokerage firm). Several other women used this time to start a family, have more children, or stay home with the ones they had.

Further negative impact on vocational outcome was the relationship between the types of job held prior to the injury and the types of job the individual obtained after discharge. Those individuals who held managerial or professional jobs and/or clerical and sales positions pre-injury were less likely to return to their pre-injury jobs. If they did return, they were unable to perform those jobs. Several of the individuals who returned to their previous job, and were unable to perform the job duties and subsequently lost that job, expressed anger and frustration over a rehabilitation system that rushed them back too soon, without support, and then when they failed, told them they could work for a sheltered workshop "packing light bulbs in a box." "I made $40,000 a year, and I'm not going to sweep floors and clean toilets." One person summed it up when he said, "I'm not stupid, I have a head injury."

Several medical factors also related to vocational outcome. It was not surprising to note that the longer an individual remained as an in-patient, the less hours per week and the fewer weeks they tended to work after discharge. Their percentage of total months worked was lower, and likewise the salary they earned on their current job was lower. A surprising relationship, however, was between length of in-patient stay and previous vocational history. Those individuals who had a higher number of jobs pre-injury tended to have a longer in-patient stay. Implications for this may lie in the fact that these individuals exhibited more risky behavior, higher substance use, lower educational history and perhaps were more likely to have more serious accidents. This pattern could be noted in three of the individuals who were hurt while riding a motorcycle without a helmet and while under the influence of alcohol.

Relationships were found between length of time from injury to admittance and post-injury salary, number of jobs and amount of time worked. Those individuals who had longer periods of time between the injury and admittance to post-acute care worked fewer hours, worked fewer months, and earned less money. These variables clearly point out the need for post-acute care for all individuals, not just those who have medical insurance. From looking at the records, it was apparent that many of the individuals who did not receive services in a timely manner did not have insurance, and were ultimately referred to post-acute care through the Texas Rehabilitation Commission, the Texas Department of Mental Health and Hygiene, or had their services financed by donations, charity or medicaid/ medicare.

Conclusions

When considering the pre- and the post-injury predictors and outcomes, one can clearly see that many of the individuals were doing very well vocationally. Overall, 54 of the individuals had held at least one job since injury, 47 were currently employed, and five individuals did not wish to seek employment at this time. On the other hand, the other 20% were frustrated over their inability to find employment, particularly employment which they felt would be commensurate with their pre-injury knowledge, skills, and salary levels. They expressed anger, humiliation, and many times defeat, at their inability to retain employment after they had gained it. Frequently, the individuals in this group stated that they were "bored," wanted to "get out of the house," and were frustrated over their inability to secure the same level of employment as they held prior to their injury.

The most significant predictor of vocational decision-making patterns was the pre-injury vocational history of the individuals. For those individuals who had an unstable job history (as evidenced by a series of short-term jobs prior to their injury), scores on the Vocational Decision-Making Interview were lower on all scales. The patterns evidenced by these individuals were fear of decision-making, lack of knowledge of the types of jobs available, the tasks and duties of the jobs they were thinking about, and what opportunities were available to them now. They also tended to score lower in the area of success in previous job choices and many were worried about the economics of returning to work. Others expressed frustration over an inability to learn and remember new tasks and felt that they would not be able to compete in the labor market successfully. A related variable was salary at the time of injury. For those individuals who held higher paying jobs at the time of the injury, scores on the VDMI tended to be higher.

However, the Self-Appraisal scale was not effected by length of stay. Although these individuals were worried about what they could do, how to get information about jobs (tasks, duties), and the training aspects of new types of jobs that were compatible with their current level of functioning and their pre-injury level of vocational success, they were not inclined to feel bad about themselves, and continued to feel that they understood themselves well.

Length of coma, again a predictor of severity of a TBI, was another predictor of scores on the Employment Readiness scale. Those individuals who had longer coma times were more likely to score lower on this scale. Concerns in this area continued to focus on economics, mobility issues, and coercion by others to either not attempt a return to work or to attempt a return to a type of job that they felt was beneath their pre-injury level of vocational and economic success.

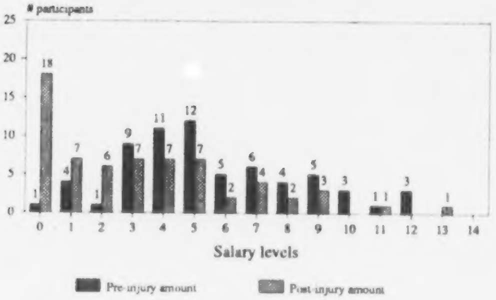
Overall, the vocational outcomes for the individuals in this study showed that of the 43 individuals working at the time of the interview, 33 worked a full year in the last year, and five worked between 41 and 46 weeks in the last year.

The average monthly salary for the individuals who participated in this study was between $1,200 and $1,799 prior to their injury. For those who were employed at the time of the interview, the average monthly salary had decreased to between $600 and $899 (See Figure 3).

Employment categories shifted from predominately professional, managerial, and sales prior to the TBI to a very definite downward shift from professional jobs to an increase in clerical, service, and benchwork jobs. For those individuals who were forced to take jobs at lower skill areas or who attempted their previous jobs and failed, there was frustration, anger and for several individuals, thoughts of suicide. For many others, the TBI provided the impetus to return to school and learn new skills and pursue new careers. For several others, the period after the TBI was an opportune time to leave the labor force and remain at home with new children or with growing families.

For those individuals who were not able to return to their previous job, or were not successful in their return, a common and very disquieting theme began to appear. This sample and the population it was drawn from are predominately middle to upper middle class, and they were establishing or were working in careers at the

Figure 3
Monthly Salary Level *



* Monthly Salary Levels

- 0 = Unemployed
  1 = $ 0 - 299
  2 = $ 300 - 599
  3 = $ 600 - 899
  4 = $ 900 - 1,199
  5 = $1,200 - 1,499
  6 = $1,500 - 1,799
  7 = $1,800 - 2,099
  8 = $2,100 - 2,399
  9 = $2,400 - 2,699
  10 = $2,700 - 2,999
  11 = $3,000 - 3,200
  12 = $3,300 - 3,599
  13 = $3,600 - 3,899
  14 = $3,900 +

TBI study - 1993

time of the injury. They were intensely disturbed over the kinds of services they have received from the state vocational rehabilitation agencies. Across the board, there has been a lack of understanding about traumatic brain injuries, and the ramifications of this type of disability. There has been a tendency to treat these individuals as if they had either mental retardation/ developmental disabilities or severe mental illness. They are angry over the lack of on-the-job support when they attempted a return to their previous employer, and they are angry over the failures that have occurred when they attempted too early of a return without support, or without long enough support.

Implications

The main implication of this study is that vocationally, these individuals should not be underplaced, and their vocational potential should not be underestimated. Given the right type of rehabilitation services and financial support, individuals who were successful before the TBI can be expected to be successful after it. These individuals are acutely aware of being underplaced, and frequent job changes post-injury may indicate an attempt to better their lot vocationally. These changes are a very different issue from frequent job changes pre-injury. Frequent job changes pre-injury were indicative of negative vocational decision-making readiness, whereas frequent job changes post-injury were indicative of positive vocational decision-making readiness. This clearly indicates that many of the individuals in this sample were underplaced in their own minds.

The significant predictors found in this study can be utilized by rehabilitation professionals to provide specific services based upon an individual's previous work history and current level of functioning to help maximize vocational outcome. Expectations and aspirations do not go away when an individual sustains a TBI. The service provider must find a way to blend previous levels of vocational functioning with current levels of physical, cognitive, and emotional functioning in order to assist an individual to re-enter the labor market. Although this is no easy task, service providers must keep in mind that individuals who feel they are under-placed will not remain in their jobs, and all efforts on the part of the consumer and the service providers will be in vain (Chandler & Czerlinsky, 1991).

Rehabilitation and medical professionals, insurance companies and acute care facilities need to provide assistance and education to consumers and their significant others as soon as possible so that families are able to access the services they need as rapidly as possible. Traumatic brain injury is called the "Silent Epidemic." Silent also means that individuals do not know where to go, or how to access the services they need. Education and appropriate services are the keys to success and understanding with TBI. For vocational outcomes to be successful, individuals with traumatic brain injuries must be allowed to be the major decision-makers.

Predictor Variables

a. Current age
b. Age at time of injury
c. Gender
d. History of seizures
e. Pre-Injury Educational History
    - highest grade
f. Living situation at injury & discharge
g. Marital status at injury & discharge
h. Vocational History
    - number of jobs pre-injury
    - length of time longest job was held
    - Amount of salary pre-injury
i. Length of time between injury & admission
j. Duration of In-Patient services
k. Duration of Outpatient services
l. Length of coma.
m. Drug and alcohol use.

Outcome Variables

a. Post-Injury Educational History
    - highest grade
b. Vocational History
    - number of jobs post-injury
    - length of time on the jobs
    - hours per week worked on @ job
    - Length of time each job was held
    - Same job as prior to injury
    - Satisfied with current voc. status
    - Amount of salary post-injury

Labor Force Participation

c. (%) of actual time worked since discharge
d. Continuous or intermittent employment
e. Year round or seasonal employment
f. Full or part-time employment

References

Bolger, J.P. (1983). Educational and Vocational Deficits. In M.Rosenthal, E.R. Griffith, M.R. Bond, & J.D. Miller (Eds.), *Rehabilitation of traumatically brain injured adults.* Philadelphia: F.A. Davis Co.

Bontke, C.F. (1990). Medical advances in the treatment of brain injury. In J.S. Kreutzer & P. Wehman (Eds.), *Community integration following traumatic brain injury* (pp. 3-13). Baltimore: Paul H. Brookes.

Chandler, S.K. & Czerlinsky, T. (1991). *Empowerment issues related to community employment and integration for individuals with traumatic brain injuries.* Paper presented at the: National Conference on Community-Based Employment of Persons with Traumatic Brain Injury: Theory and Practice, Philadelphia, PA.

Czerlinsky, T. & Chandler, S.K. (1992). *Vocational Decision-Making Interview Revised: Administration manual.* Dallas, TX: ProPublishing Associates.

DeBoskey, D.S., Burton, J.T., & Calub, C.J. (1989). *Working after head injury: What can I do?* Tampa, FL. 37.

Harris, R.M. & Hollingsworth, D. (1980). Locus of control and work limitations of handicapped women. *Journal of Applied Rehabilitation Counseling,* 11 (1), 40-43.

Hollingsworth, D. & Harris, R. (1980). Labor force participation of handicapped women: An empirical analysis. *Journal of Applied Rehabilitation Counseling,* 11, 99-103.

National Head Injury Foundation (1990). *Fact Sheet.* Southborough, MA: NHIF.

Sahgal, V. & Heinemann, A. (1989). Recovery of function during inpatient rehabilitation for moderate traumatic brain injury. *Scandinavian Journal of Rehabilitation Medicine,* 21, 71-79.

Veach, R. & Taylor, M. (1989). Vocational placement of minor head injured survivors. *Cognitive Rehabilitation,* 7 (4), 14-16.

Vieceli, B. (1986). Sampling of vocational rehabilitation strategies for the traumatically head injured client. *Journal of Private Sector Rehabilitation,* 1, 87-91.

Wehman, P., Kreutzer, J.S., Sale, P., West, M., Morton, M.V., & Diambra, J. (1989). Cognitive impairments and remediation: Implications for employment following traumatic brain injury. *Journal of Head Trauma Rehabilitation,* 4 (3), 66-75.

Wehman, P., Kreutzer, J.S., Wood, W., Stonnington, H., Diambra, J., & Morton, M.V. (1989). Helping traumatically brain injured patients return to work with supported employment: Three case studies. *Archives of Physical and Medical Rehabilitation*, 70, 109-113.

Reprints of this article and copies of the **Revised Vocational Decision-Making Interview (VDMI-R)** may be obtained by contacting the author at:

Shirley K. Chandler, M.S., C.R.C.

University of Texas Southwestern Medical School
Southwestern Allied Health Sciences School
Department of Rehabilitation Science
5323 Harry Hines Blvd.
Dallas, Texas 75235-9088
(214) 648-2860

Ms. Chandler is a doctoral candidate at Virginia Commonwealth University. She is a Research Associate and Instructor in the Department of Rehabilitation Science at UT Southwestern.

TECHNOLOGY TRYOUTS FOR THE PRINT DISABLED IN WYOMING

BETH BUCKLES DEANS, ED.D.

ABSTRACT

The Montgomery Trust Center for the Visually Impaired (MTC) was established through a private grant to the University of Wyoming College of Education in May, 1989. The original request proposed to accomplish the following objectives: (a) establish a demonstration/model facility in the College of Education; (b) conduct a survey of teachers who serve the visually impaired population; (c) provide teacher pre-service and in-service training; and (d) initiate adult outreach. The center has served hundreds of teachers with a hands-on experience with access devices designed for use by the visually impaired. This fall the College of Education was awarded a small grant to initiate "technology tryouts" with the adult population served by the Wyoming Division of Vocational Rehabilitation (DVR). The MTC is equipped with IBM compatible, Apple and Macintosh computers and adaptive devices including braille translation software, braille embosser, large print software and printers, optical character recognition scanner, screen readers/synthesizers, and closed circuit television. DVR clients who have visual or learning disabilities are invited to the MTC to "try out" the technology which may enhance their employability or future training opportunities. An average of three days is spent by each client. Hands on experimentation begins with keyboarding exercises. Word processing with voice synthesizers and/or large print software follows. Appropriate "assignments" are developed for each client to determine usefulness of the various software and hardware. The feedback from this cooperative arrangement has been extremely positive. Continuing cooperative arrangements are being developed through the rehabilitation and educational agencies throughout the state.

This presentation will consist of three major sections as follows:

(1) background of a collaborative agreement Wyoming and the Wyoming Division of Vocational Rehabilitation;

(2) description of the demonstration lab with its access technology;

(3) explanation of technology tryouts with DVR clients.

BACKGROUND

The Montgomery Trust Center for the Visually Impaired (MTC) was established through a private grant from the Wyoming State Board of Charities and Reform to the University of Wyoming College of Education in May, 1989. The original request proposed to accomplish the following objectives: (a) establish a demonstration/model facility in the College of Education; (b) conduct a survey of teachers who serve the visually impaired population; (c) provide teacher pre-service and in-service training; and (d) initiate adult outreach. The center has served to provide several hundred teachers in training with a hands-on experience with access devices designed for use by the visually impaired. The MTC has also encouraged informal visits from DVR and WSDE personnel and clients.

In the summer of 1992, the College of Education was awarded a small grant to initiate "technology tryouts" with the adult population served by the Wyoming Division of Vocational Rehabilitation (DVR). This effort has occurred with the support of the Wyoming State Department of Education Vision Consultants. The population served was to include those blind and visually impaired individuals who would benefit from hands-on experience with access technology. There are limited opportunities available in the State of Wyoming for the disabled to evaluate available technology.

EQUIPMENT IN THE DEMONSTRATION LAB

The MTC is equipped with IBM compatible, Apple and Macintosh computers and adaptive devices including braille translation software, braille embosser, large print software and printers, optical character recognition scanner, screen readers/synthesizers, and closed circuit television. In addition, a representative selection of magnifiers, adapted manipulatives and devices such as clocks and games, reference directories and distributors' catalogs are available for client evaluation. The lab is housed within 360 square feet located in the College of Education.

SAMPLES OF TECHNOLOGY

SOURCES OF TECHNOLOGY: THESE ARE ONLY EXAMPLES OF THE TYPES OF HARDWARE AND SOFTWARE AVAILABLE AND CURRENT DEALERS. No endorsement of actual products is implied or intended. Additional information will be sent upon request.

ACCENT SPEECH SYNTHESIZER

(approx. $950) voice synthesizer
works with IBM compatibles

Computer Configuration & Adapt..
4255 S. Buckley Rd.
Aurora, CO80013
+303 699-1801 (Nelson Reiser)

ARKENSTONE READER

(approx. $2200; $4,000 with computer);
Scanner to work with IBM compatible

Second Sight
3376 W. Powers Circle
Littleton, CO 80123
+303 795-6455 (Jim Misener)

BEX (BRAILLE EDIT EXPRESS)

(Approx $400). speech/large print,
word processing, 2-way braille translation.
Works with Apple IIe system.

Raised Dot Computing
408 S. Baldwin St.
Madison, WI 53703
+608 257-9595 (David Halliday)

BLAZER BRAILLE EMBOSSER

(approx. $1600)
Portable Braille embosser
configures with Apple or IBM

Blazie Engineering
105 E. Jarrettsvile Rd. #9
Forest Hill, Md. 21050
+410 893-9333 (Dean Blazie)

DUXBURY BRAILLE TRANSLATION

(approx. $500)
Braille translation program for IBM PC,
Macintosh & DEC Microcomputers

Duxbury Systems, Inc.
435 King St.
Littleton, MA 01460
+508 486-9766 (Joseph Sullivan)

ECHO SPEECH SYNTHESIZER

(approx $110) voice output device for Apple
II series, IBM & MS DOS computers

Street Electronics
6420 Via Real
Carpinteria, CA 93013
+805 684-4593

FLIPPER SCREEN REVIEW

(approx. $400) screen access program
for IBM PC; works with Votrax, Artic and Accent
speech synthesizers

Omnichron
1438 Oxford St.
Berkeley, CA 94709
+510 540-6455 (John Smith)

KEYNOTE PORTABLE COMPUTER

(approx $4,000). with speech, 20 MB hard drive,
software

Humanware Inc.
6245 King Rd.
Loomis, CA 85650
+800 722-3393 (Jerry Kuhn)

OUTSPOKEN SCREEN READER

(approx. $300)
Speech access software for
Macintosh

Berkeley Systems
2095 Rose St.
Berkeley, Ca. 94709
+510 540-5535 (Mike Schutte)

NAVIGATOR

(approx. $6,000)
Refreshable braille keyboard

Telesensory Incorporated
503 Racine St.
Aurora, CO 80011
+303 342-1766 (Chuck Wright)

TEXTALKER

(approx. $35)
Screen reading software for
Apple II computers; needs Echo speech
synthesizer;other APH programs

American Printing House for Blind
P.O. Box 6085
Louisville, KY 40206-0085
+800 223-1839 (Fred Gissoni)

TECHNOLOGY TRYOUTS

DVR clients who have visual or learning disabilities are invited to the MTC to "try out" the technology which may enhance their employability or future training opportunities. Any DVR client who may benefit is welcome to participate. Applications are forwarded through the DVR counselors to the MTC Coordinator who schedules two to four clients per week. An average of three days is spent by each client.

Preliminary information concerning the clients primary interests and experiences is provided through the application. A personal interview and interest assessment precede actual exploration. Hands on experimentation begins with keyboarding exercises. Word processing with voice synthesizers and/or large print software follows. A selection of adaptive software is available for client evaluation. A self-selection process occurs with support and training by the center staff. Appropriate "assignments" are developed for each client to determine usefulness of the various software and hardware. A report of the clients' performance is provided the DVR counselor and the client. Future operations are projected to include a mobile van and on-site availability of tryouts throughout the state.

OBJECTIVES: This session will provided participants with the opportunity to

(1) comprehend elements required in developing collaborative agreements;

(2) understand components required for establishment of a demonstration laboratory, including variety of technology required and its cost;

(3) apply concepts of establishment in mock "proposal" for funding of a similar center.

Beth Buckles Deans, Ed.D.
Coordinator
Montgomery Trust Center
College of Education - University of Wyoming
P.O. BOX 3374
Laramie, WY 82070

Vocational Evaluation Using Adaptive Equipment for People with Vision Impairments

Ya-Chin Yang

Abstract

As more employers are using assistive technology on the job, it is increasingly important for the vocational evaluator to use these tools in evaluating people with vision disabilities. Assistive technology used at the Training and Resource Center for the Blind at the University of New Orleans includes tactile, auditory, and large print display media. This paper will discuss the types of adaptive technology and how they can be used to conduct and provide improved evaluations. A follow-up study of the use and influence of equipment on the lives of former clients will also be discussed.

Vocational assessment is an important service in the rehabilitation process. Vocational rehabilitation plans such as IWRPs are written based upon the recommendations from vocational evaluation results. Often, clients with severe disabilities, such as vision disabilities, are not adequately served in most of the evaluation centers. Most evaluation centers are equipped with standard evaluation instruments and work samples which were designed to be used without adaptive aids, Langton (1991).

Adaptive technology has opened doors of opportunity for people with vision disabilities. One use of adaptive equipment is in assisting clients with vision disabilities during vocational evaluation. Assistive equipment can help individuals with vision disabilities to perform at their best in the vocational evaluation process. This enhancement of vocational evaluation can serve as a valuable resource for all rehabilitation programs.

Provision of Adjustment Training Relative to Vocational Evaluation

There are two approaches often used by vocational rehabilitation professionals when working with people with vision impairments. Some rehabilitation professionals believe in sending individuals with vision disabilities to adjustment training prior to other types of vocational programs. In adjustment training, individuals with vision disabilities receive training in independent living, orientation and mobility, alternate reading methods, and adaptive technology. The needs for adjustment training are individual. Persons who are adventitiously blind often benefit from a period of personal adjustment training and counseling regarding their blindness. These individuals may not be ready to re-enter the world of work or receive training because they lack coping skills. On the other hand, people who have an early, or congenital, onset of blindness have usually developed coping strategies and adaptive techniques in school or through friends or family. However, they may also benefit from a period of adjustment training prior to vocational evaluation to increase their skills.

Some professionals prefer to send individuals with vision disabilities to vocational evaluation, prior to personal adjustment training, as part of their eligibility determination. Individuals who are adventitiously blind are especially disadvantaged by this decision. Without adaptive skills, these individuals cannot function at their maximum potential at the time of the vocational evaluation. Often adaptive equipment is either not accessible or the individual is not aware of the new technology.

Botterbusch and Michael (1985) suggested that when vocational evaluators work with individuals with vision impairments, they must make certain that the test results reflect the client's abilities, interests, aptitudes, and not the visual handicap. The client's life experience should be considered when selecting, administering, scoring, and interpreting tests because it will affect test results. Botterbusch and Michael also suggested three major factors that affect one's test taking skills and test performance; they include: (1) age of onset of blindness, (2) emphasis on verbal skills, and (3) experiences unique to visually disabled persons.

Adaptive Technology for People with Vision Disabilities

Three groups of potentially useful devices are grouped as **(1) tactile devices** for totally blind persons, such as a braille writer and refreshable braille devices; **(2) visual enlargement devices** for partially sighted persons, such as using either a large print software program or a closed circuit television; and **(3) devices using synthetic speech**, such as the Kurzweil Personal Reading Machine, which converts print into synthetic speech. These adaptive devices should not be used in testing if the client is not familiar with them. Other adaptive techniques used in vocational evaluation include oral administration and a time extension for the tests. Adaptive equipment available at the University of New Orleans Training and Resource Center for the Blind includes: voice synthesizers, speech software, screen enlargement programs, Closed Circuit Television or VTEK, the Lynxs System, Paperless Braille devices, Braille-n-Speak, VoiceType, and others.

Follow-Up Survey

To enhance the use of adaptive equipment among UNO clients, a follow-up survey was conducted. The goal was to assess how the clients have used the adaptive equipment. Phone interviews were conducted using a questionnaire requesting information on former clients regarding adaptive equipment. They were asked when they learned of the various devices and whether they continue to use them. The subjects were twenty-six former vocational evaluation clients, age 18 to 65, living primarily in south Louisiana. Percentages were calculated on the data collected.

Results and Discussion

The population consisted of 27% adventitiously blind individuals and 73% congenitally blind individuals. Sixty-five percent of subjects had low vision while 35% were totally blind. The survey showed that most of the clients had some knowledge about adaptive equipment available. This survey showed that only 50% of the counselors discussed adaptive equipment with their clients.

Use of Perkins' Braille Writer and Other Braille Devices

Thirty-one percent of the subjects were braille readers before vocational evaluation and 31% of clients continued to use braille. No one was instructed how to use braille during the vocational evaluation.

The selection of adaptive devices to be used in evaluation varies according to the needs of each individual. A Perkins' Braille Writer was provided to individuals who were proficient users of the braille writer, following braille assessment by a staff member knowledgeable about braille. Once the client is determined to be proficient in reading braille, Perkins' Braille Writers were used by the clients during evaluation. It is also important to inform individuals who have no braille skills about braille devices for future reference. Other braille devices such as Braille-n-Speak require extensive training; therefore, these skills cannot be taught during vocational evaluation. The survey also showed that even though braille is beneficial, clients may not be interested in learning it.

Computer with Speech Synthesizer and Speech Software

Eight percent of clients used a computer with speech software before vocational evaluation while 62% received brief instruction on using speech software during vocational evaluation. Thirty-nine percent continue to use this device.

Computers with a speech synthesizer and a screen reading program were often used to evaluate clients' ability to type, potential to work with computers, and exploration of employment possibilities. A computer with speech software was used to assist most clients in reading the computer screen. The computer evaluation was done when the clients expressed interests in learning about computers and if counselors requested it. However, a certain vocabulary and reading level is important to future success in learning to use a computer with speech software. It is helpful when the client already knows how to type. During the computer assessment, the client is oriented to the computer keyboard, monitor, and the CPU. Clients are evaluated on their ability to understand the speech program, ability to execute commands after instruction and hands-on practice, and ability to follow instructions. The survey showed a 31% increase of clients who started using computers during vocational evaluation and received training after vocational evaluation. However, some clients may not be able to use a computer with speech because of cognitive abilities, ability to understand the speech software, and/or low academic skills.

Low-Vision Technology

The survey showed that about 19% of the clients were CCTV users prior to vocational evaluation while 31% received instruction and used a CCTV during vocational evaluation. Forty-two percent of the clients continued to use the CCTV after the evaluation at home and/or work. There was a 23% increase of CCTV users.

A person with low vision varies in the need for accommodations. Some individuals may be able to read large print materials and some may need other text enlargement devices. Vision enlargement technology available includes Closed Circuit Televisions or VTEK, large print material, screen enlargement programs, and large screen monitors. These adaptive devices are easily adapted by clients for their use during the evaluation because these devices do not require a high level of training. These tools enable clients to take paper and pencil tests independently.

Other Adaptive Devices

Other adaptive aids such as cane travel skills, talking calculators, signature guides, and methods of folding currency were also surveyed.

Cane travel skills and orientation and mobility skills are part of the vocational evaluation. Forty-six percent of those surveyed used a white cane before vocational evaluation while 54% continue to use a cane at the time of the survey. There was an eight percent increase in use of a white cane.

During the evaluation, the clients are assessed in terms of how well they maneuver around the office building with initial orientation and practice, such as their ability to find the entrances, exits, finding the bathroom, evaluation room, and kitchen areas. Based upon the survey, clients who needed to use the cane already knew how to use one before vocational evaluation. However, cane skills were introduced to eight percent of the clients. This occurred with clients who are adventitiously blind. Some of them had not had adjustment training prior to coming to the evaluation. They usually rely on their family and friends for traveling.

Twenty-three percent of the respondents were talking calculator users; 19% of the subjects were taught how to use it during vocational evaluation. The results showed that there was a four percent increase in use of talking calculators after vocational evaluation. There were 27% of clients who continued to use talking calculators after vocational evaluation, and 19% had no knowledge of the device when they started vocational evaluation.

On the signature guide, 23% of subjects heard about the technique, and 12% had used it in the past. Even though eight percent of the population were taught how to use a signature guide, no one continued to use it after evaluation. Some clients had no knowledge of a signature guide at all. This included people with total blindness.

The surveyed showed that 35% of people already knew how to fold dollar bills while eight percent learned this skill during vocational evaluation. Thirty-one percent continued to use the technique. There was no increase in users. They may have learned it in school or they have created their own method. None of the subjects used who were taught currency identification techniques chose to use them following evaluation. The percentage of currency identification users decreased because four percent of subjects had improved vision and no longer needed these techniques.

The adapted computers have been used as an integral part of clients' lives, such as in the independent living and recreation areas. Clients have been using adaptive equipment such as CCTV's to read medication bottles, receipts, and for general reading. Others have learned to use the computer with speech software as an employment tool and at home for record keeping and recreation. Some clients have been employed as medical transcriptionists, word processors, and computer programmers. Braille devices are being used as personal tools for recording daily information, new learning, and documentation.

Employment Status

The data showed that 31% are employed, 46% were not employed at the time of the survey, 19% were in school or training, and four percent were both employed and attending school. About 45% of the clients received some type of adaptive equipment training after the vocational evaluation. Thirty-nine percent reported that they were either waiting for services or they had not received services. Eighty-five percent of former clients stated that adaptive equipment had helped them in their lives and 15% of the clients stated that they did not find it helpful or they were not able to benefit from it.

Conclusion

The results from this survey showed that clients do benefit from exposure to adaptive equipment before and during the evaluation. Many clients had personal adjustment training prior to vocational evaluation and others did not. It is rather important for the evaluator to introduce them to the available adaptive technology during the evaluation in order to reflect the true abilities of the clients. In addition, vocational evaluators may take this opportunity to educate clients about the adaptive aids available because this may be the first chance the clients have to learn about them. Many clients who had adjustment training or who had an early onset of vision disabilities may already be familiar with adaptive equipment and are able to use it during testing. However, the clients who did not have such training must rely on the evaluator to make accommodations. Sometimes the accommodation may not be sufficient to measure their abilities. Therefore, it is better to send the client to personal adjustment training prior to vocational evaluation. Clients may never have an opportunity to demonstrate the potential for using adaptive devices and alternative techniques unless vocational evaluators introduce them to them. As a result, the number of job opportunities available to them will be decreased.

References

Botterbush, K. F., and Michael, N. (1985). Testing and test modification in vocational evaluation. Menomonie, WI: Material Development Center, Stout Vocational Rehabilitation Institute, School of Education and Human Services, University of Wisconsin-Stout.

Langton, A. J. (1991). Making more effective use of assistive technology in the vocational process. The Issue Papers: Fifth Forum on Issues in vocational assessment. Menomonie, WI: Material Development Center, Stout Vocational Rehabilitation Institute, School of Education and Human Services, University of Wisconsin-Stout.

Ya-Chin Yang
University of New Orleans
Training and Resource Center
6601 Franklin Avenue
New Orleans, LA 70122

LEARNING STYLE ASSESSMENT AND REASONABLE ACCOMMODATIONS FOR STUDENTS WITH LEARNING DISABILITIES

MARY B. SYLVESTER

Abstract

The benefits of learning style assessment in the initial stages of vocational assessment have been recognized by rehabilitation practitioners and incorporated into CARF vocational evaluation standards. Determining the learning style preferences and functional limitations of learning disabled students can have a significant impact on the development of reasonable accommodations necessary for success in vocational training and employment settings.

The September-October 1992 issue of HEATH published results of a statistical study indicating a significant increase in the percentage of college freshman with disabilities. The most frequently identified disabilities are sight and learning disabilities. The category of learning disabilities is the most rapidly growing disability category reported by incoming freshmen. Students with learning disabilities were more likely to need tutoring and support services to successfully complete post-secondary studies.

As part of a current federal demonstration grant project, the Vocational Transition Center conducted a learning disability awareness workshop for college instructors assigned to adult education or remedial education programs at Indian River Community College. The participants completed exercises designed to simulate the everyday difficulties encountered by students with various forms of learning disabilities. Each participant completed a learning style assessment to determine his or her learning modality preference(s). Other workshop materials included: an observation guide for learning disability characteristics; characteristics of different preferred learning styles and reasonable accommodations; specific learning disability characteristics, specific accommodations for each characteristic, and case studies incorporating awareness materials presented during the training sessions.

A majority of the participants had received no previous in-service training regarding learning styles, learning disability characteristics, or accommodation strategies. Participants expressed insight into the value of identifying their personal preferred learning modalities and the potential impact of these preferences on teaching styles. None of the workshop participants had ever identified personal preferred learning modalities through learning style assessment inventories. Small group participation during the case study exercises generated ideas for alternative teaching strategies to accommodate the growing population of students with learning disabilities on the college campus. Following the training sessions, participants were able to immediately identify and refer students with possible learning disabilities to the Vocational Transition Center for additional assessment.

Similar collaborative linkages between rehabilitation specialists and education specialists are recommended to enhance the likelihood of positive career outcomes for students with learning disabilities.

Introduction

In October 1992, the Career Empowerment Opportunities (C.E.O.) Project for Students with Disabilities was funded by the United States Department of Education in the amount of $226,421 for a two year period. The driving philosophy of the Vocational Transition Center grant project is that students with disabilities need highly accessible learning environments, reasonable accommodations, marketable skills, and support services in order to be effective "C.E.O.'s" of their careers.

Specialized services which will enhance access to successful career outcomes include the following:

- Disability awareness training and technical assistance to administrators, faculty, and staff
- Individualized technical assistance to disabled students, faculty, and employers in the applications of reasonable accommodations and adaptive technology
- Vocational assessment, employment readiness training, campus and community work experiences
- In-service training on effective techniques for assisting students with learning disabilities
- Linkages to community based organizations providing support services
- Linkages to job placement resources
- Linkages to local employers to facilitate career development and successful job matching
- Technical assistance to employers for compliance with the employment provisions of the Americans with Disabilities Act

College personnel in the Adult Education Center and the Center for Personalized Instruction were targeted for the first in-service disability awareness training. Learning disability awareness was selected as the first training topic since students with learning disabilities represent the largest disability population on campus.

Training Model

Participants were first given a series of true-false questions to assess their level of awareness of learning styles and learning disabilities:

1. A specific learning disability is primarily the learning problem or problems which result from a congenital disorder such as mental retardation or cerebral palsy. (false)
2. A learning disabled student is likely to have a below average I.Q. (false).
3. A learning disability involving a memory deficit affects only short term memory. (false)
4. Deficits in social competence and emotional maturity are often observed in the LD population. (true)
5. Everyone has a preferred learning style. (true)
6. The preferred learning style of a student with a learning disability of dyslexia may be auditory. (true)
7. A beneficial accommodation for a learning disabled student with a preferred learning style of "kinesthetic" or "hands-on" would be an audio tape. (false)

8. A beneficial accommodation for a learning disabled student with a preferred learning style of "visual" would be role-playing. (false)
9. A beneficial accommodation for a learning disabled student with a preferred learning style of "auditory" would be a lecture format. (true)
10. Developing the prerequisite skills students need before presenting complex material can be done by teaching overall concepts with multiple step directions. (false)

Research on teaching effectiveness suggests that the instructor is the most important variable affecting success in the classroom. Good teachers are usually always searching for new ways to improve their teaching strategies. The actual number of learning disabled adults is unknown, but it is estimated that 80% of Adult Basic Education students may be learning disabled. The most important characteristic for teachers in adult literacy programs is that they must be able to "explain well". (Project Upgrade n.d.) In order to "explain well", teachers must be aware of the different types of learning styles of their students and adapt teaching methods to accommodate student learning styles.

In the Vocational Transition Center, evaluators use the C.I.T.E., the Vocational Learning Styles (VLS) Inventory and the MACRAFT to assess learning styles and develop recommendations. The Vocational Learning Styles Inventory is a multisensory learning styles assessment designed for school and work. A computer printout indicates major and minor learning styles as well as environmental and working styles critical to training and job success. These include preferences for kinesthetic, visual, tactile, auditory, social, design, light, temperature, sound, oral, written, outdoors/indoors, sedentary/nonsedentary, and data/people/things.

The VLS inventory was administered to the 13 instructors. Some of the results are as follows:

- Major Physical Learning Styles: Visual-8%, Tactile-46%, Visual & Tactile-30%, Visual & Auditory-8%, None Expressed-8%.
- Major Social Learning Styles: Individual-69%, None Expressed-31%.
- Major Environmental Learning Styles: Formal Design: 62%, Informal-23%, None expressed-15%; Temperature: Cool-46%, Warm-15%, None Expressed-39%; Light: Well Lit-77%, Dim-8%, None Expressed-15%; Sound: Quiet-77%, None Expressed-23%.
- Major Expressive Learning Styles: Written-62%, Oral-15%, Oral & Written-8%, None Expressed-15%.

After taking the VLS inventory, participants were given characteristics of three different learning styles and examples of reasonable accommodations for each style:

Visual Learning Style

1. Closes eyes to recall information
2. Learns better if information to be learned can be seen and read
3. May have artistic ability
4. May have trouble following lectures
5. Remembers best if information is written down (e.g. directions to find a new place)
6. May have difficulty learning if others are talking, music is playing, or other noises are in background
7. Understands a joke quicker if it is read rather than heard
8. More difficulty in learning if the trainer cannot be seen
9. Usually enjoys reading

Reasonable Accommodations

1. Written directions, tests, reports
2. Use of graphics to assist learning: films, slides, illustrations, diagrams
3. Use of flow charts and diagrams for note taking
4. Visualizing material to be learned
5. Learning new material or skills from videotapes, slides, or films rather than audiocassettes or lectures
6. Sitting where the instructor can be clearly seen

Auditory Learning Style

1. Prefers to learn information by listening to it
2. May have difficulty following written directions
3. May not particularly enjoy or may have difficulty with reading
4. May have problems with writing
5. Has difficulty in "reading" body language and facial expressions
6. Remembers material that is heard better than material that is read
7. Eyes tire easily
8. Finds others' handwriting or poor copies very difficult to read
9. May prefer music or background noises while studying

Reasonable Accommodations

1. Use of audio tapes for learning
2. Learning material through participation in group discussions
3. Oral rather than written examinations
4. Learning new material from lecture format rather than textbook
5. Reading new material aloud

Kinesthetic Learning Style

1. Prefers hands-on learning
2. Has difficulty sitting still while learning
3. Prefers mixing learning with some type of physical activity
4. Often has athletic ability and good coordination
5. May prefer trial and error method rather than reading the instruction manual
6. Poor cursive handwriting
7. May not perform well on tests

Reasonable Accommodations

1. Role playing, making models, laboratory work
2. Combining walking or exercising with studying
3. Frequent breaks in study periods
4. Tracing letters and words to learn spelling
5. Using computer (touching keyboard) to reinforce learning
6. Instructor demonstration and then student "try-out" to learn new material
7. Taking notes in a notebook and underlining important facts
8. Courses using applied academics

Participants were given the following advice on presenting instructional material:

1. Make every effort to determine the student's preferred learning style.
2. When giving instructions, explain a phrase or a sentence at a time, and pause. Ask the student to repeat the directions back to you to verify comprehension.
3. Use the teaching strategy that best accommodates the student's preferred learning style.
4. Decide what prerequisite skills the student needs to handle the material to be mastered. Don't set the student

up for failure by making tasks too complex.

A case study provided participants with the opportunity to apply their knowledge to assist a student with possible LD characteristics with reasonable accommodations.

Case study: "You are observing a class in the open-ended clerical skills training program. You observed that one student, Mary, appears to be having difficulties. Due to the open-door policy, Mary was permitted to enroll in the course and the teacher has no knowledge of Mary's past school record.

The teacher shows us some of Mary's work. It is obvious that Mary has difficulty in organizing her typing assignment. The material is not lined up properly on the sheet of paper. She has difficulty in spacing paragraph indentations and margins. When the teacher asks her in a written test to list the important steps in typing a business letter, she give details which are not relevant. She also has difficulty in selecting the main points.

You have just completed a learning disability awareness seminar. You ask Mary what helps her to learn best. She says that she understands the assignment best when the teacher explains it to the class or explains it to her individually. She has difficulty understanding the written assignment. She is enrolled in the class hoping to enter a clerical career. She admits that she is now having so much difficulty that she may not be able to achieve her career goal.

Discussion Questions:

1. Based on your observations and Mary's comments, what do you believe is possibly Mary's preferred learning style?
2. What clues made you believe that this is Mary's preferred learning style?
3. What are some characteristics of learning disabled students that Mary is exhibiting?
4. What instructional strategies may be effective in helping Mary compensate for her learning difficulties?
5. List specific learning aides and strategies which could be used to help Mary successfully complete her typing course."

The final phase of the awareness training involved using exercises designed to simulate the difficulties and frustrations that learning disabled students may encounter in an academic setting. (RSA 1987)

Characteristics of learning disabilities which are simulated in these awareness exercises include: processing information, reasoning, understanding verbal communication, comprehending written communication, auditory processing, visual processing, attention, fine-motor coordination, memory.

Copies of these exercises are available by contacting the Vocational Transition Center.

Summary

Adults with learning disabilities continue to have academic problems throughout their lives and need to be viewed as lifelong learners. Since learning disabilities are invisible disabilities, it is more difficult to convey the need for and the types of reasonable accommodations. In academic settings, instructors and administrators may resist certain accommodations which are helpful for the SLD student such as extended time for examinations and modified assignments. The rehabilitation specialist can alleviate some of this resistance through disability awareness training. Reasonable accommodations are not designed to "water down" curriculum or eliminate what is to be learned. Instead, reasonable accommodations alter the instructional process in order for the student to have an equitable opportunity to learn.(Simpson, Umbach 1989).

Vocational evaluation results indicating preferred learning styles and recommendations for reasonable accommodations can be extremely valuable in developing IEP's and IWRP's. However it is critical that these recommendations be available to all individuals who are providing services for students with learning disabilities. Formal and informal mechanisms for interdisciplinary communication need to be established.

Figure 1

Learning Style Instrument Resource List

C.I.T.E. Learning Styles Inventory
Puzzled about educating special needs students: A Handbook on Modifying Curricula for Handicapped students. Madison, WI: Wisconsin Vocational Studies Center, University of Wisconsin-Madison.

MACRAFT
301 West Oregon Street
Urbana, Illinois 61801

Vocational Learning Styles Media Kit
Piney Mountain Press, Inc.
P.O. Box 333
Cleveland, GA 30528

References

Bingman, M.B. 1989. Learning differently: meeting the needs of adults with learning disabilities. Center for Literacy Studies. The University of Tennessee, Knoxville.

Blakemore, T., McCray. P. & Coker, C. (n.d.) A guide to learning style assessment. Menomonie, WI: Stout Vocational Rehabilitation Institute, University of Wisconsin Stout.

Dowdy, C.A. (July/August/September 1992). Identification of characteristics of Specific Learning Disabilities as a Critical Component in the Vocational Rehabilitation Process. Journal of Rehabilitation. 51-54.

Faas, L.A. (October, November, December, 1992) WAIS-R subtest regroupings as predictors of employment success and failure among adults with learning disabilities. Journal of Rehabilitation. 47-49

Flaherty, Geraldine. (September 1992). The learning curve: why textbook teaching doesn't work for all kids. Vocational Education Journal. 32-33.

Howard, N. (ed.), 1980, Puzzled about educating special needs students: A handbook on modifying curricula for handicapped students. Madison, WI: Wisconsin Vocational Studies Center, University of Wisconsin-Madison.

National Clearinghouse on Post-secondary Education for Individuals with Disabilities. (September & October, 1992). Information from HEATH, Volume 11, No. 2&3.

Project Upgrade. (n.d.) Adult learning disabilities: An update. Manhattan Adult Learning and Resource Center. Manhattan, Kansas.

RSA Region IV L.D. Training Grant. (1987) University of Alabama at Birmingham and Division of Rehabilitation & Crippled Children Service, Alabama State Department of Education. We learn differently...But we learn and we work... A vocational rehabilitation model for training counselors to serve persons with learning disabilities.

Satcher, J. F. and Dooley-Dickey, K. (July/August/September 1991) Helping College Bound Clients with Learning Disabilities. Journal of Rehabilitation. 47-50.

Simpson, R.G. and Umbach, B.T. (July, August, September 1989). Identifying and providing vocational services for adults with specific learning disabilities. Journal of Rehabilitation. 49-55.

Mary B. Sylvester, Project Director
Career Empowerment Opportunities Project
Vocational Transition Center
Indian River Community College
3209 Virginia Avenue
Fort Pierce, FL 34981

THE VOC-ED EXPLORATION SURVEY: THE FIRST STEP IN TRANSITION PLANNING

MARTHA A. ENSLEY

Abstract

Vocational evaluation and vocational decision making require the identification of career interests and work preferences. The Virginia Options for Careers and Education (VOC-ED) Exploration Survey is designed to help individuals assess their career/vocational interests by responding to statements describing 150 major job tasks. Ten job activities in each of fifteen occupational clusters are described verbally while pictures of workers performing the duties are shown on videotape. Job tasks and visuals utilized are based upon the Occupational Employment Statistics (OES) program, data in the Guide to Occupations in Virginia, Eighth Edition, and local vocational/career training programs and industries. The Survey was designed to be used as a component of school-based vocational evaluation services. It is the first step in obtaining information necessary for successful transition planning for students preparing for entry into vocational training and the world of work. It serves as a building block for further vocational evaluation and identification of other vocational support service needs. The VOC-ED Exploration Survey provides a model which can easily be adapted by other areas to provide locally-based information about current education and employment opportunities.

All major career development theories include awareness and exploration phases during which individuals begin to examine their vocational interests and aptitudes. While the approximate age range of this stage varies with individual needs and rates of development, the main objective remains the same. The goal of this exploration phase, according to Sarkees and Scott (1985), is to expose an individual to vocational opportunities from which an area of interest may develop, leading ultimately to a personal focus. This focus which involves the identification of a personal direction and goals is needed before the individual starts to prepare for a career through vocational education, on-the-job training, apprenticeship, or job placement. By exploring their interests and aptitudes, individuals begin to determine their future roles as workers and citizens (Brolin, 1989). For this reason, career awareness and exploration activities as well as occupational information should be presented in a manner which broadens the range of options and stimulates further exploration.

No one would deny that career exploration and occupational information are critical components of vocational evaluation, particularly in a school-based setting. Yet, as Fry (1978) reminds us, occupational information is simply not being used to the fullest extent possible in the vocational evaluation process. In fact, there is a concern that occupational and current labor market information is not being well utilized by the entire educational community. Opportunities are endless for occupational information to be used in program planning, development of curriculum and materials, and career guidance; however, most labor market statistics are not translated into a format which educational personnel and students can use. While the majority of secondary school students (50% or more) remain within a twenty-five mile radius of the locality in which they attend high school, occupational information and labor market materials generally are based upon national employment data (Herr, 1980). Most commercially produced materials do not focus on state and local needs (e.g. Valpar International Corporation's *Guide to Occupational Exploration Interest Survey* and *MESA*; JEVS/VRI's *Vocational Research Interest Inventory* and *APTICOM)*. To be effective, career education and exploration requires the use of the local community as a resource for information about training options, job requirements, and current and projected employment demands.

A common goal of all types of assessment - vocational, academic, or other - is to generate a course of action for an individual. To accomplish this goal, the vocational evaluation process generally begins with the identification of career interests -- expressed, inventoried/tested, and/or manifested. Numerous techniques and methods have been used by human service professionals to measure career interests for more than half a century (Drummond, 1988). Attempts are made through interviews, psychometric testing, inventories, and observation to identify work preferences. These instruments and methods hope to discover an individual's level of interest in a variety of types of occupational and career activities. There are also numerous tests designed to identify interest in specific types and levels of jobs -- professional or semi-skilled, for example. McCarron, Ryser, & Spires (1991) pointed out during the Fifth National Issues Forum that a systematic approach to vocational interest exploration should provide essential occupational information and serve as a basis for vocational decision making. Vocational evaluation, exploration, and decision making should thus be based upon concrete information from an assessment of career/vocational interests.

Development of the VOC-ED Exploration Survey

With an enrollment of approximately 33,400 students, the Henrico County Public Schools in Virginia face many challenges in meeting the needs of a diverse, suburban student population. As part of its mission to "develop 21st-century citizens who can achieve full development of their potential" (Henrico County School Board, 1989, p. 2), the school system offers vocational experiences to learners of all ages. To help fulfill this mission, vocational evaluation services are provided through the Vocational Assessment Center (VAC). As a school-based evaluation program, the main objective of the Center is to assist in the identification of the interests, strengths, and needs of secondary students as they relate to vocational programming and instructional planning. A wide range of youth and adults are evaluated each year including a large number of exceptional education and at-risk students. Among these youth and adults, there is often a pattern of academic, behavioral, or other problems which impacts upon school achievement and vocational potential. For this reason, vocational evaluation is viewed as a possible motivating factor for students, providing the hands-on opportunity to try a variety of job skills and sparking interest in employment-related educational programs.

It was determined that a new method of examining our students' vocational interests was necessary because the information presented in a pictorial interest survey that was being used in the evaluation process had grown old and out-of-date. In determining commercial evaluation systems to use in a vocational evaluation setting, Botterbusch (1987) outlines four considerations: (1) local labor market needs and training opportunities, (2) the client population to be served, (3) the purpose of the evaluation, and (4) the relative expense and limitations of the systems. Botterbusch suggests that facilities may decide to develop their own tools based upon local industry. This provides a more accurate assessment of available jobs and/or training while making the evaluation more realistic for clients. Accordingly, the best time to build occupational information into the evaluation process is at the time materials and tools are being developed for use (Fry, 1978). In reviewing commercially available career interest inventories, a search failed to identify any instrument which met the needs of the student population being served at the VAC and which addressed local labor market demands and educational opportunities. It was decided to develop a regionally-based vocational/career interest tool in a format which would appeal to a broad range of secondary level students rather than purchase either an existing or commercial instrument.

Description of the Survey

The Virginia Options for Careers and Education (VOC-ED) Exploration Survey is designed to help students and adults assess their career/vocational interests by responding to statements describing 150 major job tasks. The information used to compile the Survey originates with the Occupational Employment Statistics (OES) program, a cooperative federal-state program operated through the Bureau of Labor Statistics. The OES program is seen as the only comprehensive source of projected employment information, and therefore, occupational demand. Based on estimated employment in 1988, the OES system projects employment for eight occupational categories for the year 2000, and the employment change between 1988 and 2000 in specific jobs.

Occupational categories differ from one data collection system to the next, from one interest inventory to the next. Job titles and definitions in the OES system are based largely on the Dictionary of Occupational Titles classification system. Use of the OES occupational categories allows the Survey to easily be used along with federal occupational materials such as the Guide for Occupational Exploration. The OES information is also used in the Guide to Occupations in Virginia, Eighth Edition. This Guide is a collection of data on over 400 occupations, organized into occupational briefs. Each brief includes a description of the occupation and data on wages, demand, and supply. An occupation is included in the Guide on the basis of its importance in Virginia. The OES system divides jobs into eight categories:

- Executive, Administrative, and Managerial Occupations
- Professional, Paraprofessional, and Technical Occupations
- Marketing and Sales Occupations
- Clerical and Administrative Support Occupations
- Service Occupations
- Agriculture, Forestry, Fishing, and Related Occupations
- Production, Construction, Operating, Maintenance, and Material Handling Occupations
- Operators, Fabricators, and Laborers

The VOC-ED Exploration Survey expands these eight categories to fifteen. The "Professional..." cluster was divided into four areas, based upon the specific types of occupations being examined - Technical (Scientific and Mathematical), Human Service, Performing and Entertaining, and Health. The "Production..." and "Operators..." categories were increased from two divisions to six separate areas, again based on the types of jobs included: Precision Production, Construction, Maintenance and Repair, Operators and Fabricators, Transportation and Material Moving Operators, and Helpers/Laborers.

Ten job tasks in each occupational area are described verbally while pictures of workers performing the tasks are shown on videotape. Information about job tasks in each occupational category is included rather than focusing on particular types of jobs. This allows individuals taking the Survey to be exposed to an overview of all work group clusters. Another reason for emphasizing the type of job activity rather than a specific job title is to give attention to transferable job skills in each cluster. For example, one job task described on the VOC-ED Survey reads, "Make goods that have to meet high standards." Specific jobs which involve this type of activity include Electronics Assemblers, Meatcutters and Butchers, Upholsterers, Typesetters, and Sign Painters. In the classroom, vocational guidance, and evaluation, this format provides a basis for discussion of the concepts of career clustering, transferable skills, and career ladders. Special consideration was given to gender, age, and ethnic composition in selecting visual representations of the job tasks in a effort to provide a range of vocational options that are not based upon stereotypical roles.

The Survey script, reviewed by a reading specialist, is written on an eighth grade reading level; however, no reading is required due to the visual format. The video and audio format was selected based upon the diversity of students seen at the VAC and the documented need for vocational interest exploration systems which incorporate visual images with factual information about jobs (McCarron et al., 1991). An instrument based on pictures was decided upon since the reading grade equivalent levels of individuals participating in comprehensive evaluations at the VAC range from lower elementary to post-secondary. Learning disabilities and other handicapping conditions which affect reading and comprehension also had to be considered in development of the Survey. Research has shown that learners express preferences for realistic visual presentations and that photographs provide vocational stimuli for persons with limited or nonreading abilities (Levie & Dickie, 1973; Markey, Parker, & Reisch, 1983).

Specific job titles are listed in an accompanying administration manual after each task description as a guide to further career exploration. Special attention was given to employment needs in the Commonwealth of Virginia and to employment opportunities in the Richmond, metropolitan area. All of the occupations listed in the Guide to Occupations in Virginia, Eighth Edition as having the most projected openings and/or as the fastest growing occupations in Virginia through the year 2000 were included. In administering the Survey, individuals tend to recognize pictures from local businesses with which they are familiar and relate required job activities to the visuals. Using pictures from the community helps to expand their knowledge of the range of industries in the local labor market.

Administration

The VOC-ED Exploration Survey can be utilized by individuals or groups. The video lasts only twenty-six minutes, a length chosen due to the limited attention span of most students in the age range seen at the VAC. The videotape, copies of the VOC-ED response sheet, and a VCR/tapeplayer and monitor are all that is needed for administration. Directions for the Survey are provided on videotape. The tape can be stopped before the description of the job tasks begins in order to be certain that the instructions have been clearly understood. A reaction to each of the 150 job tasks is noted by circling a response. At the end of the Survey, each individual scores his/her own response sheet; the results can later be graphed to show a preference profile.

Since its development in the fall of 1992, the Survey has been used with 280 participants in a secondary level alternative vocational program and 234 applicants to the vocational programs at a local technical center, as well as with 150 students participating in Phase I and comprehensive vocational evaluations. Statistical tests are currently being conducted to determine the Survey's reliability and to allow comparison with other available career interest instruments. Both student and staff reactions to the Survey have been positive. School personnel have been pleased with the availability of an up-to-date interest inventory in which students can see pictures of local employers. This provides the stimulus for discussion about regional employment opportunities as well as employer demands and job requirements.

Use of Local Resources

In an era of business-education partnerships, the VOC-ED Exploration Survey is the result of collaboration among numerous organizations. Both public and private employers in the Richmond area assisted with the development of this project. Employers were contacted to determine their interest in having their facilities and employees included in photographs. Not only did this result in pictures which were timely and accurate but also allowed the VAC evaluators to become more familiar with local businesses and organizations. Employers contacted to participate in the project were enthusiastic and eagerly offered their assistance. The evaluators were then able to describe and market vocational evaluation services. Whenever possible, pictures of actual training programs offered at the two technical centers and alternative high school in the County were utilized, giving evaluation participants an inside look at available educational opportunities.

The VOC-ED Survey was developed without specific funding. Additional personnel were not needed to acquire photographs or other materials since the Survey was completed as part of normal work responsibilities of a vocational evaluator. Only the cost of film and photo processing was required. Various school personnel including media services technicians, writers/editors, and clerical staff provided assistance with all aspects of the project. Donations of time and talent coordinated through the Workforce Services section of the Virginia Department of Economic Development allowed the Survey to be professionally narrated, taped, edited, and produced.

Implications for the Survey

The VOC-ED Exploration Survey is a starting point for further occupational exploration. As with all interest instruments, results should be seen as vocational possibilities within a general area of interest, not as specific occupational choices (Zytowski, 1972). Information from interest testing and exploration is often viewed as a motivating factor for adolescents, bolstering hope for the future and helping them to more clearly see the connection between educational options and the world of work (Eichman, 1991; Borow, 1980). Designed to be used as a component of school-based vocational evaluation services, the VOC-ED Survey is the first step in obtaining information necessary for successful educational programming and transition planning for students preparing for entry into vocational training and the world of work. Results of the VOC-ED Survey serve as a building block for further vocational evaluation and identification of other vocational support service needs. Specific areas of interest can be further explored through the administration of work samples and aptitude testing. Job readiness training, vocational guidance, and additional career exploration needs can be identified.

In a survey of perceived needs for vocational assessment information, representatives from four consumer groups (educators, proprietary rehabilitation personnel, state rehabilitation personnel, and employment personnel) rated information derived from the evaluation process regarding vocational interests as significant (Wesolek & McFarlane, 1991). There is a growing demand for information about student/client interests to assist in the provision of pre-vocational, academic, and vocational services in education, rehabilitation, and employment settings, yet there is a recognized need to incorporate this information more directly into individualized planning (Roessler & Bolton, 1985; Neubert, Danehey, & Taymans, 1990; Horvath & Ashley, 1991). In education, planning based on assessment results is mandated through legislation for vocational and special education programs. Results of interest and aptitude testing can relate directly to an interest in a specific vocational program and aptitudes associated with the program, opening the door to vocational guidance and career counseling. Interest data should be seen as critical to the facilitation of appropriate instructional plans.

Interest assessments are as important to adults as to secondary students. Public agencies providing adult rehabilitation and employment services must also base their client objectives on evaluation and assessment information. In their study of rehabilitation clients, Roessler and Bolton (1985) conclude that interest inventory results provide an efficient and cost effective means to identify vocational objectives during the initial stages of rehabilitation planning, yet they also found that the information is underutilized in service planning and job placement. Utilization of interest data enhances the probability that vocational rehabilitation clients will enter training and/or employment in jobs which involve their preferred work activities. It has also been asserted that helping professionals can use vocational interest information to challenge gender and disability stereotyping in job placement while providing a better match between expressed interests, tested interests, and job placement (Neubert et al., 1990). Despite all its possible implications, there is still a need to further examine the use of interest and other vocational evaluation information in vocational training placement, transition services, and employment planning.

A movement toward more practical interest inventories was predicted in the mid-1980's (Drummond, 1988). The Virginia Options for Careers and Education Exploration Survey is just that--practical. The Survey provides a model which can easily be adapted by other localities to provide relevant and regionally-based information about current vocational/career opportunities available to students and adults. Career development theories have changed over time, but one can hardly dispute that personal preferences and situational choices based upon family, environmental, and other influences are significant factors in career/vocational selection and achievement. With many young students and adults, career interest surveys or inventories are used to increase occupational awareness and begin the career development process. The VOC-ED Survey provides the opportunity for individuals to begin looking at their work preferences and gain exposure to training and employment options within the community. It is hoped that the VOC-ED Exploration Survey will lead to well informed choices and to positive visions of the future for the students and adults who utilize it.

References

Botterbusch, K.F. (1987). Vocational assessment and evaluation systems: A comparison (3rd ed.). Menomonie, WI: University of Wisconsin-Stout, Stout Vocational Rehabilitation Institute, Materials Development Center.

Brolin, D.E. (Ed.) (1989). Life centered career education: A competency based approach (3rd ed.). Reston, VA: Council for Exceptional Children.

Borow, H. (1980). Career guidance uses of labor market information: Limitations and potentialities. In H.N. Drier & L.A. Pfister (Eds.), Career and labor market information: Key to improved individual decision making (pp. 7-19). Columbus, OH: Ohio State University, National Center for Research in Vocational Education.

Drummond, R.J. (1988) Appraisal procedures for counselors and helping professionals. New York, NY: Macmillan Publishing Corporation.

Eichman, C.M. (1991). Vocational evaluation and school dropout prevention in the middle school years. In R. Fry (Ed.), The issues papers. Fifth national forum on issues in vocational assessment (pp. 255-258). Menomonie, WI: University of Wisconsin-Stout, Materials Development Center.

Fry, R. (1978). Occupational information in vocational evaluation. Menomonie, WI: University of Wisconsin-Stout, Stout Vocational Rehabilitation Institute, Materials Development Center.

Henrico County School Board (1989). Education 2000: Management plan. Richmond, VA: Henrico County Public Schools.

Herr, E. (1980). Recommendations for the improved use of labor market information in secondary schools. In H.N. Drier & L.A. Pfister (Eds.), Career and labor market information: Key to improved individual decision making (pp. 43-60). Columbus, OH: Ohio State University, National Center for Research in Vocational Education.

Horvath, D.R. & Ashley, J.M. (1991). Implementation of vocational assessment results in transition planning. In R. Fry (Ed.), The issues papers. Fifth national forum on issues in vocational assessment (pp. 233-238). Menomonie, WI: University of Wisconsin-Stout, Materials Development Center.

Levie, W.H. & Dickie, K.E. (1973). The analysis and application of media. In R. Travers (Ed.), Second handbook of research on teaching. Chicago, IL: Rand McNally College Publishing Company.

Markey, E., Parker, H., & Reisch, J. (1983). The use of photographs as occupational stimuli. Journal of Vocational Behavior, 22(1), 117-125.

McCarron, M., Ryser, G., & Spires, H. (1991). Vocational Interest Exploration System (VIE): Occupational opportunities for entry level employment. In R. Fry (Ed.), The issues papers. Fifth national forum on issues in vocational assessment (pp. 91-99). Menomonie, WI: University of Wisconsin-Stout, Materials Development Center.

Neubert, D.A., Danehey, A.J., & Taymands J.A. (1990). Vocational interests, job tryouts and employment outcomes of individuals with mild disabilities in a time-limited transition program. Vocational Evaluation and Work Adjustment Bulletin, 23(1), 17-23.

Roessler, R. & Bolton, B. (1985). Vocational interests and occupations of rehabilitation clients. Vocational Evaluation and Work Adjustment Bulletin, 18(1), 16-20.

Sarkees, M.D. & Scott, J.L. (1985). Vocational special needs (2nd ed.). Homewood, IL: American Technical Publishers, Inc.

U.S. Department of Labor (1991). Dictionary of Occupational Titles (4th ed., revised). Washington, DC: U.S. Government Printing Office.

U.S. Department of Labor, Bureau of Labor Statistics (1990). Occupational projections and training data. Washington, DC: U.S. Government Printing Office.

Virginia Occupational Information System (1991). Guide to occupations in Virginia, Greater Richmond, SDA (8th ed.). Charlottesville, VA: University of Virginia, Center for Public Service.

Wesolek, J.S. & McFarlane F.R. (1991). Perceived needs for vocational assessment information as determined by those who utilize assessment results. Vocational Evaluation and Work Adjustment Bulletin, 24(2), 55-60.

Zytowski, D.G. (1972). A concurrent test of accuracy of classification for the Strong Vocational Blank and the Kuder Occupational Interest Survey. Journal of Vocational Behavior, 2(3), 245-250.

Martha A. Ensley, CVE
Henrico County Public Schools
Vocational Assessment Center
2206-A Mountain Road
Glen Allen, Virginia 23060
(804) 261-5080

Virginia Options for Careers and Education
Exploration Survey
Copyright 1992, Henrico County Public Schools

Self-determination: A Critical Element in Transition Planning

Roberta Ginavan
Theresa Hubbell Jozwiak

Abstract
Self-determination skills are critical for individuals with disabilities in the successful transition from school to adult environments. The authors examine legal (IDEA, ADA, and VR amendments), decategorization, employment, and service delivery issues as they impact on transition planning and self-determination. Efforts currently underway in Iowa in transition and in the development of self-determination skills are discussed.

To understand the critical importance of self determination in transition planning, it is necessary first to understand the concept of self-determination. Self-determination is a developmental process through which an individual masters the skills and abilities necessary to take control of his or her life and to make choices and decisions based upon the individual's preferences, interests, and needs. Self-determination includes the traits associated with self-esteem, self-actualization, pride, creativity, and assertiveness. To be self-determining, the individual must understand his or her strengths and limitations and know situations in which appropriate self-determining behavior may be to give certain areas of control to another individual.

Each year nearly one-quarter million special education students 16 years or older exit the educational system. Less than one-half graduate with a high school diploma and nearly sixty thousand drop out of school. To further understand the critical need for development of self-determination skills in this population, let us look for a moment at some of the many forces at play in our society in which an individual with a disability is called upon to demonstrate those abilities.

Legal Issues

The Individuals with Disabilities Education Act (P.L.101-476, 1990) defines "transition services" as those services aimed at preparing students (soon to leave school) for post-secondary education, vocational training, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation.

The transition services are to encompass a coordinated set of activities for each student, based upon the individual student's needs and taking into account the student's preferences and interests. Schools are expected to develop such activities within an outcome-oriented process, to "include [at a minimum] needed activities in the areas of—

(i) Instruction;
(ii) Community experiences;
(iii) The development of employment and other post-school adult living objectives; and
(iv) If appropriate, acquisition of daily living skills and functional vocational evaluation."

In developing a student's individualized education program (IEP) each year, it is expected that schools will:

- consider the post-school outcomes desired for that student, and
- provide educational and related services designed to prepare the student for achieving these outcomes.

This process is expected to begin as early as possible in a child's life and must be reflected in the IEP (no later than age 16) as a statement of the transition services to be provided. Consideration of the need for transition services for some students should begin at a younger age because 16 may be too late for many students, particularly those at risk of dropping out of school and those with the most severe disabilities. Transition services for individuals with severe and/or multiple disabilities must be considered, planned, and provided over a multi-year time period (Federal Register, September 29, 1992).

The Amendments and the Rules and Regulations for IDEA also require that "If a purpose of the meeting is the consideration of transition services for a student, the notice [to parents] must also—

(i) Indicate this purpose:
(ii) Indicate that the agency will invite the student; and
(iii) Identify any other agency that will be invited to send a representative."

Thus since all IEP meetings for students age 16 years or older will include a discussion of transition services, it is, therefore, expected that the student will be invited and encouraged to attend and to be an active, equal participant in the IEP meeting.

The Americans with Disabilities Act (P.L. 101-336, 1990) prohibits employers from discrimination in all job related practices on the basis of an individual's current or prior disability, perceived disability, or known association or relationship to a person with a disability. If the applicant or employee is qualified for the position, the employer must provide "reasonable accommodation" to allow an employee to be able to perform the essential job functions, as long as it does not impose undo hardship on the employer. The accommodations extend to all rights and privileges granted to other employees who do not have disabilities. The accommodations must be decided on the specific individual's need.

An employer may ask questions regarding the ability of an applicant to perform essential job functions, but may not, on an application form or in a pre-employment interview, inquire whether, or to what extent, an individual is disabled. When an applicant's disability is known to the employer, questions may be asked to determine how the individual can perform job functions that the employer might consider difficult or impossible because of the disability and whether accommodation would be needed.

The reasonable accommodations would, most likely, fall under the job modification requirements. Such modification includes adaptations made to a) equipment used to perform the job, b) the work area, or c) the employee's work schedule. ADA does not require that the employer be knowledgeable about all types of disabilities, but rather expects the employer to accommodate only the "known" disability of the specific individual. It is expected that this requirement of the Act will usually be triggered by a request from the individual. EEOC expects an employer to "consult the person with the disability as the first step in considering an accommodation." The consultation should include discussion of the specific abilities and limitations. Barriers to job performance are to be discussed. Employers are to consult the individual with a disability to identify potential accommodations and to assess how effective each would be in enabling the individual to perform essential job functions. Therefore, the individual with disability needs to be knowledgeable about his or her disability and the accommodations necessary for the job being sought and must be able to communicate this information to the employer (U.S. Equal Employment Opportunity Commission, 1992).

The Rehabilitation Act amendments (P. L. 102-569, 1992) require that state plans include policies and procedures to facilitate transition of service provision as well as coordination of service between an educational agency and vocational rehabilitation. State plans are required to set forth criteria for an order of selection of eligible clients for services which results in an increased focus on the functional capacities of an applicant in such areas as mobility, communication, self-care, self-direction, interpersonal skills, work tolerance, or work skills.

State plans are also required to describe "the manner in which individuals with disabilities will be given choice and increased control in determining their vocational rehabilitation goals and objectives,...[and] in which students who are individuals with disabilities and are not in special education programs can access and receive vocational rehabilitation services, where appropriate..." These amendments require, in the completion of the Individual Written Rehabilitation Plan, a statement in the words of the client describing the process by which the goals and objectives were selected and options considered in making the decisions. Thus, eligibility for services, determination of appropriate services, and receipt of those services all become dependent, to some extent, upon the self-determination skills of the individual with a disability seeking services.

Decategorization Issue

There is increasing interest across the nation in providing services to individuals with disabilities based on identified functional limitation(s) rather than diagnostic category as is currently provided in the laws. Massachusetts and South Dakota have not used disability-oriented data for several years; Pennsylvania has recently undertaken an initiative called "Rights Without Labels," a concept endorsed by the National Coalition of Advocates for Students, the National Association of School Psychologists, and the National Association of Social Workers Bureau of Special Education, 1992). In the review of the plan to revise special education in New Jersey, it is reported that most parents whose children were classified under the traditional system stated that the new classification system based on service and pupil needs "improved their communication with school staff and increased their child's self-esteem" (Ellis, Osowski, & Gantwerk, 1991).

The laws were originally referenced to disabilities or categories for ease of record keeping and were based on the assumption that different categories are truly unique and have disability-specific interventions (Hocutt & Schulte, 1987). Education has found little support for the theoretical assumption that a disability or category has specific attributes necessitating specific interventions leading to specific outcomes (Ysseldyke & Christenson 1988). "Under current practice, psychoeducational [and vocational] assessments tend to be disability and placement focused rather than solution oriented" (Jozwiak & Ginavan, 1990). Supporters of the decategorization of services maintain that except in cases of sensory/physical handicap, it is not possible to distinguish between students on the basis of their inherent characteristics. Therefore, services allocated to individuals should be based on demonstrated need rather than presumed etiology of disability. Thus, if the traditional psychoeducational assessment model does not identify individual needs and possible intervention strategies, then the assessment model must be changed to increase student outcomes.

Generally, decategorization efforts are in relation to learning disabilities, mental disability/retardation and behavior disorders (Hocutt & Schulte, 1987); however, Iowa has proposed and is studying the possibility of extending decategorization to all disabilities within the educational system (Bureau of Special Education 1992). Concomitantly, the Iowa Department of Human Services has decategorized child welfare systems within the department in five of the state's more populous counties. As efforts to study and implement decategorization continue, many assurances must be given stakeholders (NASP, 1986), but, most pertinent to the issue of self-determination are the guarantee and protection of a) parental rights in regard to identification, evaluation, IEPs, and placement of students and b) due process rights for parents and students who may have complaints or concerns about issues of evaluation, services, or placements. A major concern from stakeholders regarding the loss of label or of specific category is the lack of direction for an individual if services are not provided, i.e., not knowing to which advocacy group to turn if a specific disability is not identified.

Employment Issues

Information available from the National Longitudinal Transition Study collected in 1987 and 1989 (Siegel, Robert, Waxman, & Gaylord-Ross, 1992) revealed that 46 per cent of youth with disabilities were employed 1 to 2 years after exiting school compared with 59 per cent of the general population of youth. For youth with mental retardation, 33 per cent were employed one year after exiting high school, while 63 per cent of youth with SLD were employed. Young women with disabilities were concentrated more in service occupations and less in clerical occupations than women in the general population. Employment rates steadily increased between 1987 and 1989 for youth with disabilities classified as SLD, speech impaired, or mildly / moderately mentally retarded, but remained fairly stable for youth classified as emotionally disturbed.

Iowa follow-up studies (Sitlington & Frank, 1989 and 1992), utilizing data for individuals with mild disabilities one year after leaving school, reveal similar distribution in rates of employment in relation to disability categories. The studies reveal a larger proportion of males than females to be employed, a difference which reaches 20 per cent in individuals with emotional disability.

The Iowa studies report "over 80 per cent of the individuals in each disability group said they utilized the 'self/family/friend" network to find work." There were no significant differences in this finding based on gender or disability. Ten per cent or fewer individuals indicated the use of school personnel or community agencies as their primary resource for assistance in finding work. The most frequently named source of help was the state employment service with other agencies far behind in frequency of use. The Iowa studies, in a comparison of the hours worked per week in terms of full-time versus part-time employment, found that males tended to be employed full-time more than females, a statistic consistent across disability categories (Sitlington & Frank., 1989).

In reporting on adult adjustment of Individuals with behavioral disorders, the Iowa follow-up studies reveal that one year out of school, 53 per cent of those individuals had been at the current job less than 6 months. Even three years out of school, 43 per cent had been at their current job less than 6 months (Sitlington & Frank, 1992).

In a comparison of the workplace of today and tomorrow, characteristics of the traditional workplace model include centralized control, end-of-line quality control, fragmentation of tasks, authority vested in the supervisor, workers perceived as a cost, workers advanced by seniority, acceptance of minimal worker qualifications, little training expected for production workers and specialized training expected for craft workers, a model which requires little in the way of self-determination skills as the decisions are made by managerial and supervisory staff and the opinions of the workers are seldom sought. By contrast, the characteristics of the high performance workplace model of tomorrow include decentralized control, on-line quality control, work teams and multi-skilled workers, authority delegated to the worker, workforce viewed as an investment, screening of applicants for basic skills abilities, advancement by certified skills with training sessions for all workers and broader skills sought.

In the work environment of the future, work will be problem-oriented and will be organized in work teams with emphasis on high quality products, a model in which skills associated with self-determination will be critical (SCANS, 1992).

Secretary's Commission on Achieving Necessary Skills (SCANS) of the U.S. Department of Labor identifies a three-part foundation of skills and personal qualities needed for solid job performance. This foundation consists of basic skills (reading writing, arithmetic and mathematics, speaking, and listening), thinking skills (thinking creatively, making decisions, solving problems, seeing things in the mind's eye, knowing how to learn, and reasoning), and personal qualities (individual responsibility, self-esteem, sociability, self-management, and integrity) (SCANS 1992).

Renewed Service Delivery System

Iowa is in the fourth year of experimentation with a new approach to the delivery of special education services called the "Renewed Service Delivery System." The move to develop a new service delivery model was spurred by many concerns identified by stakeholders across Iowa (Grimes, 1990). Among these concerns were issues such as: separate systems between special education and general education; special education students did not appear to fit into the plan for excellence in education, although special education curricula are often the same as the general education curricula, the skills do not appear to transfer; the evaluation for special education programs relies heavily on standardized assessment techniques to determine eligibility and has been program oriented rather than student outcome oriented. A major cornerstone of the RSDS project is the individual school building plan developed by a local school committee including administration, family, regular and special education teachers and support service staff (Clark, et al, 1992). Given legislative mandate to serve students with disabilities, the buildings identified their local resources, their local student needs, and proposed a plan for the allocation of resources to serve "at-risk" and students with handicaps to meet district goals for education of all students. The plans are approved by the area education agency (AEA) and the Iowa Department of Education, Bureau of Special Education, to ensure the provisions of IDEA are met. The use of local school building plans increases the district's local autonomy in the provision of services to students with special needs.

A second key shift in the RSDS project is the move away from focusing on a disability-driven system to a student-need-driven system. Decision making centers on an identified need or problem rather than a suspected disability. The problem is defined as a lack of performance to meet environmental demands(Knoff, 1990). Thus, assessment practice tends to move away from the traditional reliance on nationally-normed standardized tests to locally-normed curriculum-based assessments, observation of behavior in the environment in which the problem occurs, and interview of significant persons, including the student (Ulman & Batsche, 1984). The assessment is intended to identify the student's needs in relation to the environment to determine which interventions are necessary to assist the individual to succeed and the special services that are necessary to implement the interventions.

In a survey of perceptions of the effectiveness of a problem-solving system, most area education agencies responded that effectiveness could be measured in improved student outcomes, reduction in presenting problems or concerns, and in problem resolution. Barriers to a problem-solving system were listed by the area education agencies as lack of time and staff, lack of funds and resources, resistance to change, and a need for more staff development (Clark et al, 1992).

A more significant mismatch in access to services than the debate over entitlement versus eligibility between the educational system and vocational rehabilitation and some other adult agencies has been created with the move to a problem-oriented assessment model and, in some situations, has become a barrier to effective transition planning. In an effort to resolve some of these differences, a multidisciplinary study committee composed Bureau of Special Education and Division of Vocational Rehabilitation Services representatives and persons working in transition from four areas of the state has been formed to examine the RSDS and problem solving approach, possible barriers to transition planning, and possible solutions (Department of Education, BSE & DVRS, 1992). Goals of the committee are to develop a model of assessment, report writing, and agency interaction that could be used across the state with all agencies—education and adult service—involved in transition planning.

In the development of the problem solving approach model for the educational system, it has been recommended that special education reevaluations occur at major transition points in a student's education career and that the reevaluation focus on possible problems relating to transition to the educational system. For secondary students, these transition points have been identified as preparing to enter the freshman year and during the junior year or 18 months prior to exiting the school system (Jozwiak & Ginavan, 1990). At this point, the need for transition planning to the adult environments for work, living, and community involvement becomes the driving force behind the assessments. The problem solving assessment becomes "the process of systematically collecting information showing relationships between student's performance and their environmental settings for the purpose of developing, implementing, and monitoring academic, career-vocational, and transition plans." A critical component of the problem solving approach is the monitoring of progress toward a specific goal (Schendel & Ulman, 1990). This data collection is part of the evaluation component of a program and permits adjustment of the program when a lack of progress is evident.

Because of the local self-determination built into the RSDS project, each area education agency has a slightly different twist on the implementation of the problem-solving approach. The Bureau of Special Education has also, given the experimental nature of the RSDS project, permitted latitude in the use of categorical versus non-categorical identification for services. Because transition planning is an expected outcome of the assessment at the secondary level, a decision has been made to pilot using the ten critical areas of need identified by the Iowa Transition Model (Iowa Transition Initiative,1992) as the basis for the problem solving assessment. A comparison of the ten critical areas of the Model with the seven areas of functional capacity identified in the 1992 amendments to the Vocational Rehabilitation Act (Figure I) shows that the functional impairment information could be available to the vocational rehabilitation counselor for making determinations of needs for services and eligibility decisions.

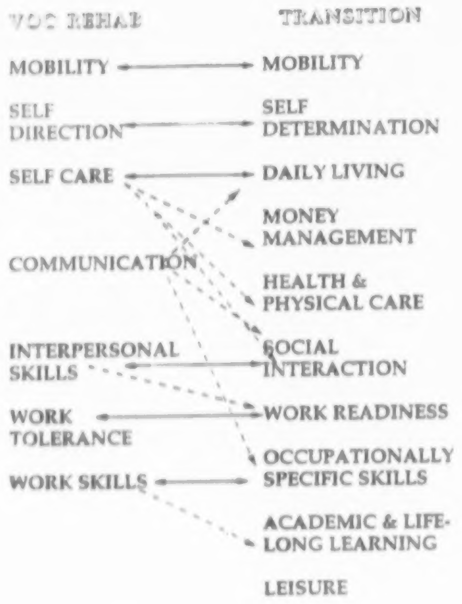


Figure I. Relationship between Vocational Rehabilitation functional capacities and Iowa transition model ten critical areas of need.

Self-determination in Transition

If the critical areas of need for transition planning become the focus of secondary special education reevaluations, the student's self-determination skills become critical, not only because self determination skill is a critical area itself, but also because identified long range goals for post high school activities direct the identification of potential problems, current skill levels and anticipated needs. It is critical for the student to understand the disability, have awareness of his or her learning style, be able to set realistic goals based on his or her interests, preferences, and needs and that the student be able to communicate this information to the multidisciplinary transition team.

In order for an individual with a disability to be an equal and participating member of an IEP/ transition planning meeting, to access rights to reasonable accommodation in the workplace, to participate fully in the development of one's Individual Written Rehabilitation Plan, to access services from a non-labeled environment, or to integrate into the high performance workplace model of tomorrow, it is essential that self-determination skills be developed. The process includes developing in the individual with a disability a sense of importance and an understanding of the uniqueness of every person, regardless of the existence of a disability, and of his or her personal uniqueness. It is important for the individual to identify his or her needs and wants and his or her interests and abilities. It is then important for the individual with a disability to understand that needs and wants may not be equal just as interests and abilities may not be equal. It is also necessary for the individual to develop an understanding of the disability and its accommodations as well as its limitation.

To be self-determining, the individual must learn to understand and accept individual differences of opinion and to be able to differentiate his or her opinion from that of family members, teachers, peers, or others exerting influence of his or her life. Self-determination skills include the ability to apply problem-solving methods to a given situation and to identify alternative solutions to a problem and the consequences of each proposed solution. Self-determination requires the ability to set goals, to prioritize those goals, to be able to track one's personal progress toward meeting those goals, and to provide self reinforcement. To be self determining, one must know his or her rights and must also be able and willing to accept the responsibilities associated with those rights. Finally, one must have knowledge of available resources (Wehmeyer, 1992).

The basic elements in development of self-determination are the same for individuals with or without disabilities. However, the individual with a disability is likely to encounter barriers to self-determination that will not have been encountered by their non-disabled peers. The barriers to self-determination fall into three categories: attitudinal barriers, support system barriers, and architectural or environmental barriers.

One attitudinal barrier is the overprotection of the individual with a disability by immediate and extended family members, teachers, care givers, and other individuals with whom the individual interacts. Overprotection inhibits the opportunities to make choices or take risks—with the possibility of experiencing failure. It inhibits the opportunity to experience the "real" world.

A second attitudinal barrier is the low expectation placed on the individual with a disability. Because little is expected, many times motivation is not developed—or even thwarted at times. Without challenge, failure is not experienced, accommodations to the limitations are not found, and the individuals learn to set low goals, undermining the development of self confidence and pride in the process. In many cases, these attitudinal barriers serve to increase the level of disability, rather than enable the individual to become more independent.

Support systems include providing a stable and secure home environment, having friends and other social supports in the community, and having adequate agency support to ensure that basic needs are met (Mitchell, 1988). A deficiency in these supports results in a barrier to successful integration into the community.

Even with recent legislation, individuals with disabilities continue to face architectural barriers that impede their ability to access the community, society, and the workplace.

Iowa Efforts

The Iowa Transition Initiative was launched in 1987. The Initiative, a consensus group of approximately 200 parents, educators, adult agency service personnel, and advocates crossing state and local levels, developed the Iowa Transition Model, a cooperative planning process adaptable to local needs, which is utilized as "best practice" for transition planning in Iowa's high schools. The Model identifies 10 critical areas of need in transition planning: self determination, academic and life long learning, daily living, health and physical care, leisure, mobility, money management, social interaction, work readiness skills, and occupationally specific skills. Although the Model was developed to assist individuals with disabilities, it is believed that the process is applicable for all youth.

The Iowa Transition Model (Iowa Transition Initiative, 1992) divides the transition process into four stages, each of which builds upon the previous. The first stage is transition awareness and is recommended to begin at age 12. At this time, the student and family become involved in activities to assist in understanding the concept of and need for transition from school to adult life, to identify long-range directions, set goals, and begin the process. The student and family begin to develop an awareness of community resources available to the student in the transition process. In stage two, the potential adult living, working, and educational environments of the student are identified and the student's current capabilities and skills needed to reach those goals are identified. New and existing information is used as a basis upon which to base educational program and transition planning decisions. In stage three, at approximately age fourteen, the student becomes an active participant in the formal transition planning meetings and instructional (IEP) goals are written to address the student's identified needs. Stage four is reached when the student enters the adult community and transition goals are addressed by adult service providers. The individual in transition enters a follow-up process entailing ongoing support and the opportunity to reenter the transition planning process as needed. At each stage of the transition process, evaluation of the continued appropriateness of the goals is carried out and revisions/modifications made in transition planning as necessary. (See Figure II)

In 1991 Iowa received a five-year Systems Change Grant on Transition (Iowa Department of Education, 1991), legislated in IDEA with funding from the US Department of Education, Office of Special Education and Rehabilitative Services. Among the major goals of that grant are: 1) to build capacity of individuals/families/ advocates to participate in IEP/transition planning, 2) to build capacity of educators, youth and adult service providers, and transition teams to expand upon their area's transition process, and 3) to improve the quality and accessibility of adult services and coordination among those services. As an activity of that grant, an Advisory Committee on Training was organized and charged with developing the content and formats of training strands, one strand of which is self-determination. Collaboration was begun with the Parent-Educator Connection project in the state. A search at that time revealed little completed curriculum material, especially within the context of linking self-determination to transitional needs and planning. The Parent-Educator Connection assisted in gathering information in regard to critical content needs.

Since the Iowa Model calls for initiation of transition awareness activities at age 12, it was decided that the first self-determination training package be targeted to students with mild disabilities at age 12, their families, and educators. The training package, *Self Determination The Journey to Independence*, has been developed for the Iowa Transition Initiative by Dr. Michael Wehmeyer and Dr. Hank Bersani, two leaders in the field of self-determination, with funding through the Statewide Systems Change Grant on Transition (Wehmeyer & Bersani, 1993).

The training, which requires 8 hours, is composed of four two-hour modules. Some activities are developed to be done with students and families working together and others are developed to have students and families working separately, sometimes with different themes to the activity. The modules are presented by a team of three facilitators including an educator, an adult family member of an individual with a disability, and a young adult with a disability. Module 1 provides an overview of self-determination and its importance. Students learn to recognize that they have dreams and can influence their future. Family members learn to recognize their son or daughter as a unique individual. Students and families learn the importance of control and choice for adults with disabilities. Module 2 involves students in an examination of their own uniqueness and how to distinguish between their

The Transition Process

Developed Through The Iowa Transition Initiative*

- Each step in the process builds on what was done previously as individuals move through school into adult life.
- The transition process outlines responsibilities of team members and is accomplished through the cooperative planning efforts of the following representatives:

Multi-Disciplinary Team
- Individual
- Family or Guardian
- Educators
- Service Providers
- Employers

- Area Transition Advisory Boards (TABs) are aware of the activities used with individuals and their families or guardians in the merged geographic area in each component of the Model. The area TABs take an active role in the transition process as individuals prepare for and enter the Adult Living Component.

Academic & Lifelong Learning • Health & Physical Care • Mobility • Social • Occupationally Specific Skills

Self - Determination • Daily Living • Leisure • Money Management • Workplace Readiness

Bridge from School to Adult Life

AGE 12

Awareness

- Create awareness of why it's important to begin thinking about the future.
- Acquaint the individual and his/her family or guardian with the need for future planning as an ongoing process.
- Identify long-range directions, set goals, develop skills, and begin the transition planning process.
- Develop awareness of community resources and facilitate contacts prior to graduation.
- Continue Awareness activities on an ongoing basis throughout the transition process.

AGE 13

Identification of Needs

- Identify potential adult living, working, and educational environments.
- Focus on functional life competencies and the interests of the individual.
- Identify skills individual already possesses to reach his/her goals and those skills he/she needs to develop.
- Gather new information and make use of existing information on which to base program and transition planning decisions.
- Continue Identification of Needs activities on an ongoing basis throughout the transition process.

AGE 14 to

Planning and Implementation

- Develop or revise an existing Individual Education Plan (IEP)/ transition plan with the individual that builds on the long-term directions identified at age 12 and the goals and competencies identified at age 13. Include annual goals and short-term objectives for each goal so the individual knows what he/she is working toward and why.
- Allow the individual the opportunity to work on the identified competencies and obtain the experiences necessary to enter adult life.
- Involve the individual and his/her family or guardian as active participants in the IEP and other transition planning meetings.
- Identify and invite representatives from youth and adult services to the planning meetings as appropriate, based on the individual's needs.
- Use the individual's identified transition directions and future living, working, and educational environments to drive the IEP/ transition planning process.
- Convene the IEP/multi-disciplinary team at least once yearly and more often as needed to modify the IEP/ transition plan.

...ADULT LIFE

Adult Living

- Continue time-limited support of the individual as needed in his/her movement from school into adult life.
- Convene a meeting of the multi-disciplinary team comprised of the individual, his/her family, educators and adult service providers at least yearly if the need for services continues.
- Enable the individual to be aware of whom to call and when if needed.
- Facilitate communication between service providers and others on an ongoing basis to serve as a network for individuals to use as needed.
- Expand efforts to implement a follow-up process whereby ongoing support and re-entry into the transition planning process can occur as needed and desired by individuals.

For further information contact:
IOWA TRANSITION INITIATIVE
Drake University
Mountain Plains Regional
Resource Center
Des Moines, IA 50311
515/271-3936
Dee Skeens, Director

* The ITI has designed this process to assist young people with disabilities. It is believed that this process has applicability for all youth.

Evaluation

- Evaluate the overall progress of individuals in the Awareness, Identification of Needs, Planning and Implementation and Adult Living Components.
- Evaluate the satisfaction of the individuals with the transition process and with the outcomes experienced as adults.
- Evaluate the satisfaction of the individuals' families or guardians with the transition process and with the outcomes experienced by the individuals as adults.
- Evaluate the multi-disciplinary team members' involvement in and satisfaction with the transition process.
- Evaluate awareness of Transition Advisory Board members of Awareness, Identification of Needs, and Planning and Implementation Component activities conducted in their merged geographic area with individuals and their families or guardians.
- Evaluate awareness and involvement of Transition Advisory Board members in Adult Living Component activities conducted in their merged geographic area with individuals and their families or guardians.
- Make modifications as needed in the transition process and service delivery systems based upon data gathered as part of the evaluation process.

6/92

Figure II. Iowa transition model transition process.

BEST COPY AVAILABLE

wants, needs and, goals and how to separate them from those of families, teachers, and others. Students are introduced to problem solving. At the same time, parents are involved in activities to assist them to understand some of the pressures upon their son or daughter at this stage in their life and to provide a basis for supporting the development of self-determination skills and self esteem. Parents also develop insight into the need for their son or daughter to be actively involved in the transition planning and IEP process. Module 3 provides instruction on identification of outcomes and encourages students to assume a leadership role on their transition/IEP multidisciplinary team. It begins an investigation of resources available for long range planning. Module 4 provides instruction in the ten critical areas of transition in the Iowa Transition Model and a brief practice in goal setting as a family group.

Through a train-the-trainer program offered in early 1993 to training teams from each of the 15 area education agencies and in encouraging training on the local level, Iowa has become a leader in recognizing the critical need for self-determination skills in its youth with disabilities and in the implementation self-determination training for individuals with disabilities and their families on a statewide basis. Within the next year, it is anticipated that the training package will be edited to be used with individuals with moderate to severe disabilities and their families.

A second training package currently under development for the Iowa Transition Initiative to meet goals of the Statewide Systems Change Grant on Transition is one on the integration of transition planning into the IEP and into the instructional program. It is anticipated that this training package will also be facilitated by an educator, a family member, and a young adult with a disability. It will examine, not only the legal, or compliance, aspects of transition planning and IEP development, but also will identify ways in which transitional needs may be accommodated with educational programming and instruction. The training will discuss transition planning and its importance. It will explore the interrelationships between the transition planning process and the IEP process and the manner in which the two processes relate in developing instructional goals for individuals with disabilities. A portion of the training will be devoted to an examination of roles of the various persons who are or may be involved in the transition process. Since the individual with a disability is expected to be an active participant of the transition planning process, this training packet will build upon the learning experiences in *Self Determination The Journey to Independence* and will provide further development in self-determination skills as the individual with a disability learns to make known to members of the IEP team his or her preferences, interests, and needs and assumes an active role in determining activities necessary to meet identified goals. It is expected that statewide train-the-trainer sessions on this package will occur in late summer or fall 1993, with statewide training of educators, families, young adults with disabilities, and other appropriate professions to be initiated soon thereafter.

Assessment of Self-determination Skills

At this time, there are few curriculum programs that teach self-determination skills. Available programs (Heinen, undated, Marshall, Maxson, & Jerman, 1993, and Van Reusen, Bos, Schumaker, & Deshler, 1987) look at self-inventories (to identify personal strengths and weaknesses), goal setting, and how to behave during the staffing meeting such that adults will understand that the student is serious about being an active member of the planning team and will listen to the student's viewpoint. The programs use modeling and role playing as teaching techniques. Two of the programs (Heinen, undated, and Van Reusen, Bos, Schumaker, & Deshler, 1987) include a progress monitoring system that allows the evaluation of performance during the role playing situations. The role playing leads to stronger confidence in self and automaticity of the basic skills which facilitates the transfer of skills into the staffing setting. The programs also include feedback after the staffing to reinforce and improve skills.

If a program does not have a built-in progress monitoring system, one can be designed by identifying the critical behaviors for which the trainer or examiner is looking. These can be measured through observation, self report, or interview report under the role play or actual setting. The development and performance of self-determination skills are then evaluated by successive approximation to a set expectation of performance given the setting and the individual's capabilities. The problem solving approach promotes the identification of critical educational or vocational behaviors and evaluation within the expected (natural) environment. While this approach recognizes the validity of the four basic methods of assessment—Review, Interview, Observe and Test—it promotes the use of data that links directly to interventions and which can be used to determine baseline performance and progress toward the goal or desired behavior.

Summary and Implications

1) Since self-determination is a developmental process, training in the appropriate skills needs to begin early. While age 12 is an appropriate starting point given the developmental stage of early adolescents in beginning to look at the complexities of the world around them and to formulate their own opinions, some of the young adults on the training teams, given their own experiences in school, suggest the training needs to begin earlier, as young as third or fourth grade. This is the point at which education expects students to become independent workers and thinkers, expects them to be less reliant on the teacher, to finish tasks, and to answer questions.

2) Although students are expected to become independent thinkers, students with disabilities often remain sheltered. Overprotection by parents and educators is a primary barrier to self-determination. The traditional adust service paradigm, with the case worker and his or her professional expertise as the central decision making force, has also proved to be a barrier to client self-determination. Therefore as young people and adults with disability are taught and encouraged to become more self-determining, the parents, other family members, educators, and adult service providers must also be trained and prepared to "cut the apron strings."

3) Special education frequently has trained individuals with disabilities in skills which do not transfer to settings outside the special education classroom. If an individual with a disability is to become truly self-determining, he or she must have opportunities for independent practice of the skills. Students need to be active members of the planning team and to be encouraged to discuss differences of opinion with teachers and administrators. Adults with a disability need to be given opportunity to direct their own rehabilitation planning and encouraged to voice differences of opinion and to negotiate compromise. In the early stages of independent application, the individuals will need an opportunity for feedback from trusted individuals regarding

what worked in the situation and what might be changed next time.

4) While individuals with disabilities vary greatly in capabilities, decision making skills, and comfort in various situations, all individuals must have the opportunity to develop self-determination skills. This includes individuals with severe and/or multiple disabilities. Self-determination can include complex decision making or may be simple decision making, i.e., the color of shirt to wear today. The key is to provide the individual with as much control of the environment as he or she is capable and comfortable of handling.

5) Whether the individual's planning team is a school-based education and transition planning team or an adult rehabilitation planning team, there is a need to develop a cohesiveness among all team members, including the adult service organizations and their representatives. The individual with disability, his or her interests, preferences, and needs, must be the driving force behind the decisions and actions of the team.

REFERENCES

______(1990). *P. L. 101-476.* Washington, DC: U.S. Government Printing Office.

______(1990). *P. L. 101-336.* Washington, DC: U.S. Government Printing Office.

______(1991). *Project Iowa.* Des Moines, IA: Iowa Department of Education.

______(1992). *P. L. 102-569.* Washington, DC: U.S. Government Printing Office.

______(1992). *34 CFR Parts 300 and 301: Assistance to States for the Education of Children with Disabilities Program and Preschool Grants for Children with Disabilities: Final Rule.* Federal Register. 57(189), 44795-44852.

______(1992). *The decategorization of students requiring special education in Iowa (draft position paper).* Des Moines, IA: Department of Education, Bureau of Special Education.

______(1992). *VR/RSDS project proposal Information sharing between school and adult providers* (working paper). Des Moines, IA: Department of Education, Bureau of Special Education and Division of Vocational Rehabilitation.

Anderson, W. et al (1990). *Best practices in vocational assessment of students with disabilities.* In A. Thomas & J. Grimes, (Eds.) Best practices in school psychology-II. Washington, DC: National Association of School Psychologists.

Batsche, G. (1984). *Referral-oriented, consultative approach to assessment/decision-making.* Des Moines, IA: Department of Public Instruction.

Berkobien, R. (1991). *The american disabilities act at work.* Arlington, TX: The Arc.

Brolin, D. E. (1978). *Life centered career education: A competency based approach (Revised Edition).* Reston, VA: The Council for Exceptional Children.

Clark, J. et al (eds.) (1992). *Implementing RSDS State of the art survey summaries.* Des Moines, IA: Iowa Department of Education.

Ellis, J., Osowski, J., & Gantwerk, B. (1991). *Public comment, pilot project outcomes and recommendations.* Trenton, NJ: New Jersey State Department of Education.

Ginavan, R. & Jozwiak, T. H. (1991). *Problem-solving approach: Identifying solutions for individuals with challenges.* In R. Fry (Ed.) The Issues Papers: Fifth National Forum on Issues in Vocational Assessment. Menomonie, WI: University of Wisconsin-Stout, Stout Vocational Rehabilitation Institute, Department of Education, Materials Development Center.

Grimes, J. (1989). *Identifying the concerns with special education.* Presentation at Loess Hills Area Education Agency 13. Council Bluffs, IA: Iowa Department of Education.

Halpern, A. S. (1990). A methodologi cal review of follow-up and follow-along studies tracking school leavers from special education. *Career Development of Exceptional Individuals, 13,* 13-27.

Heinen, C. (undated). *Cut the apron strings: The empowerment of assertiveness and self-advocacy skills for secondary students with disabilities.* Atchison, KS: Atchison High School.

Hocutt, A. M., & Schulte, S. T. (1987). *A study of noncategorical special education A literature review.* Research Triangle Park, NC: Research Triangle Institute.

Iowa Transition Initiative (1992). *Iowa transition model.* Des Moines, IA: Iowa Transition Initiative.

Jozwiak, T. H., & Ginavan, R. (1990). *Problem-solving assessment at the secondary level handbook.* In Special Education Procedures. Council Bluffs, IA: Loess Hills Area Education Agency 13.

Knoff, H. (1990). *Components of problem-solving: Designing meaningful assessments* [Videotape]. Des Moines, IA: Iowa Department of Education.

Levinson, E. & McKee, L. (1990). *Best practices in transitional services.* In A. Thomas & J. Grimes, (Eds.) Best practices in school psychology-II. Washington, DC: National Association of School Psychologists.

Martin, J. E., Marshall, L. H., Maxson, L., & Jerman, P. (1993). *Self-directed IEP.* Colorado Springs, CO: University of Colorado at Colorado Springs, Center for Educational Research.

Mitchell, B. (1988). *Who chooses?* In Valdisision, C. (Project Director) Transition summary: Self determination. Washington DC: NICHY.

National Association of School Psychologists (1986). *Position statement on rights without label guidelines.* Washington, DC: National Association of School Psychologists.

Schendel, J., & Ulman, J. (1990). *Performance monitoring of academic and non-academic behaviors (2nd ed.).* Des Moines, IA: Iowa Department of Education.

Secretary's Commission on Achieving Necessary Skills (1992). *Learning a living: A blueprint for high performance.* Washington, DC: U.S. Government Printing Office.

Siegel, S., Robert, M., Waxman, M., & Gaylord-Ross, R. (1992). A follow-along study of participants in a longitudinal transition program for youths with mild disabilities. *Exceptional Children, 58*, (4), 346-356.

Sitlington, P. L., & Frank, A. R. (1989). *Iowa statewide follow-up study: Adult adjustment of individuals with mild disabilities one year after leaving school.* Des Moines, IA: Iowa Department of Education.

Sitlington, P. L., & Frank, A. R. (1992). *Iowa statewide follow-up study: Adult adjustment of individuals with behavior disorders three vs. one year out of school.* Des Moines, IA: Iowa Department of Education.

Stodden, R. A., Ianacone, R. N., Boone, R. M., & Bisconer, S. W. (1987). *Curriculum-based vocational assessment: A guide for addressing youth with special needs.* Honolulu, HI: International Education Corp.

Ulman, J., & Batsche, G. (1984). *Referral question consultative decision making: Relevant educational assessment and interventions model.* Des Moines, IA: Iowa Department of Education.

U.S. Equal Employment Opportunity Commission (1992). *A technical assistance manual on the employment provisions (title I) of the americans with disabilities act.* Washington DC: U.S. Government Printing Office.

Ward, M. (1988). *The many facets of self-determination.* In Valdisision, C. (Project Director)Transition summary: Self determination. Washington DC: NICHY.

Van Reusen, A. K., Bos, C. S., Schumaker, J. B., & Deshler, D. D. (1987). *The educational planning strategy.* Lawrence, KS: EXCELLenterprises, inc.

Wehmeyer, M. (1992). Self-determination: Critical skills for outcome-oriented transition services Steps in transition that lead to self-determination. *Journal for Vocational Special Needs Education, 16* (1) 3-7.

Wehmeyer, M. & Bersani H. (1993). *Self-determination The journey to independence.* Des Moines, IA: The Iowa Transition Initiative.

Ysseldyke, J. E., & Christenson, S. L. (1988). *Linking assessment to intervention.* In J. L. Graden, J. E. Zins, & M. J. Curtis (Eds.) Alternative educational delivery systems: Enhancing instructional options for all students. Washington, DC: National Association of School Psychologists.

Roberta Ginavan, Project Manager,
Statewide Systems Change Grant on Transition
Division of Vocational Rehabilitation
510 E. 12th Street
Des Moines, Iowa 50319

Theresa Hubbell Jozwiak, School Psychologist/Transition
Loess Hills Area Education Agency 13
Manawa Extension Office
1600 South Highway 275
Council Bluffs, Iowa 51503

PRE-VOCATIONAL TRAINING: AN ADJUSTMENT SERVICES MODEL FOR SPECIAL EDUCATION STUDENTS

J. JOSEPH JOHNSON III

Abstract

Recent emphasis on transitioning from school to work by the Individuals with Disabilities Education Act (IDEA) illustrates the problems public education has experienced in preparing special education students for employment. If efforts in "transitioning" are to be successful, adjustment service programs within public schools need to become consumer oriented and holistic in approach. This paper presents such a model implemented through the Pre-Vocational Training Program at Woodrow Wilson Rehabilitation Center. This Program integrates practices from a variety of disciplines which include: work adjustment, special education, counseling, vocational education, psychology and career development.

With the passage of the Individuals with Disabilities Education Act (IDEA), "transitional services" are required to be provided to eligible students at the age of 16 or earlier, if necessary. In this context, "transitioning" means the process of preparing special education students to move successfully from the school system to adult life.

The recent emphasis on transitioning has been stimulated in large part by numerous follow-up studies (Zeflin & Hossenini, 1989; Edgar, 1987; The National Longitudinal Transition Study 1988; and the Iowa Follow-Up Studies by Sitlington and Associates, 1989-1991). These studies demonstrate that the current educational system is not successfully preparing special education students for employment and community life.

Leading authorities in the field of career development (i.e., Super, Holland, Crites, etc.) have identified stages through which individuals progress in this life-long process. Brolin (1989) delineates four such stages of career development: Career Awareness, Career Exploration, Career Preparation and Career Assimilation.

Couch (1984) reviewed various adjustment services provided within rehabilitation that addressed career development. Adjustment services is defined by the Glossary of the Vocational Evaluation and Work Adjustment Association (Fry & Botterbusch, 1988) as:

> "Ongoing, systematic and individualized rehabilitation services designed to enable persons with disability to cope with self and situations through the acquisition of skills, behaviors, and concepts to achieve an increased, measureable functional level of personal, social, and/or vocational development."

The Vocational Evaluation and Work Adjustment Bulletin (1992) reviewed the following adjustment services models of problem solving, work acclimation, educational, behavioral, and personal growth and development.

If efforts in transitioning are to be successful, public schools need to implement holistic, integrated, and practical approaches to career development and adjustment services. Using the Pre-Vocational Training (PVT) Program at Woodrow Wilson Rehabilitation, this article illustrates the variety of services and techniques needed to provide an effective adjustment services model for special education students.

The mission of PVT is to provide instructional and work-related activities that enable individuals with a disability to learn the proper work, personal, and social behaviors necessary for employment. PVT is based upon several principles obtained from a variety of adjustment services. From these principles, program objectives, design and structure, intervention strategies, and curriculae are developed.

Principles

Often educational and rehabilitation models are designed upon concepts without the formulation of principles from which the programs and services are to be developed. The following principles serve as the foundation for the PVT model.

Personal Investment
Contingent upon the awareness and acceptance of personal strengths and limitations related to the Program's mission.

Personal Ownership
Exists to the degree the individual is allowed and willing to participate in establishing and developing individualized goals.

Meaningful Goals
Achieved when they are a component of the individual's total vocational and transitioning plan.

Self Esteem/Confidence
Enhanced through positive feedback and self talk, and is the key to personal growth and peak performance.

Personal Beliefs
Need to be modified if behavioral change is to be transferable and ongoing.

Intervention Strategies
Need to be focused on positive outcomes and the application of natural consequences found in the work place.

Employment Standards
Should be reflected in the behaviors addressed.

Employment Structure and Demands
Need to be established if the Program is to be successful.

Adaptation To Environment and Work Activities
Should be considered prior to requesting personal change.

Flexible and Holistic Services
Need to be provided based on individual needs.

Objectives

PVT provides a holistic approach to personal development through a model which integrates concepts from several adjustment services: work adjustment, vocational evaluation, special education, psychology, and counseling. Objectives of the Program are:

1. To establish an individualized plan based upon assessed needs.
2. To enhance self esteem and confidence through classroom activities and recognition of successes.
3. To attain employment standard for fifteen employment behavior categories through meaningful and productive work activities and instructional classes:
   Basic Behaviors. Attendance/Punctuality, Appearance, Attention To Task, Safety Awareness, Following Instructions, Work Energy;
   Social Skill Behaviors. Response to Correction, Supervisor Relations, Co-Worker Relations, and Communication Skills;
   Vocationally Focused Behaviors. Work Speed, Work Quality, Work Independence, Initiative, and Work Attitude.
4. To establish a vocational objective through occupational identity, career awareness and career exploration.
5. To achieve academic competency, at the functional level possible, of generic trade-related math and reading, time telling, and money management.

Design and Structure

Facility or school-based adjustment services programs are often necessary in order to provide comprehensive service delivery. It is important that the structure and design of these programs reflects employment practices and standards to the degree possible. PVT strives to develop this type of environment through the following:

Individualized Rate of Movement
Individuals move at their own rate in achieving personal goals.

Levels

The Program consists of three levels. Level I addresses basic employment behaviors, Level II teaches social skills, and Level III instructs vocationally focused behaviors. The Levels system prevents individuals from being overwhelmed by all the objectives at once, provides steps of achievement, and allows each individual to work with as many as three different supervision/ teaching styles. Individuals may begin in any of the three levels or skip a level based on individual needs.

Promotional Practices

The Levels system reinforces the concept that an employee can be promoted through hard work and achievment of performance standards.

Work Activities

Work activities are implemented which promote meaningful and productive work. Work activities such as custodial, business, stock clerk, engraving, woodworking, sewing, computer tasks, furniture refinishing, production tasks and crafts span a wide range of occupations and ability levels.

Point System

The purpose of the Point System is to provide an immediate reward for demonstrated adaptive behavior and to provide a sense of money management. Points are totaled and posted daily. They can then be exchanged for point store items, food from the snack bar, recreational activities, or time off from work.

Benefits

A day of sick and a day of personal leave are provided each month to teach an understanding of these benefits and the responsible manner in which to use them.

Recognition

Three distinct forms of recognition are provided to build self esteem and to acknowledge achievement among peers. Each individual is awarded a different colored ribbon for each employment behavior achieved. Each week there is usually one individual selected as "Student of the Week" for his/her significant accomplishments in the Program. The final form of recognition is a "Certificate of Achievement" which is awarded upon conclusion of the Program.

Intervention Components

To provide for individualization, a positive focus, maintenance of behaviors and transference of what is learned, PVT implements the following.

Individualized Intervention Plans

An intervention plan is designed by the teacher and student for each employment behavior addressed. This plan specifies the deficit behavior, functional analysis of the behavior, the goal behavior, and intervention strategies to be implemented.

Hierarchy of Intervention Strategies

A variety of behavioral strategies are defined and arranged in a hierarchy from positive practice to highly restrictive. Any intervention plan which involves moderately or highly restrictive strategies requires review and approval from the WWRC Ethics Committee. The purpose of this process is to provide a full array of strategies that can be implemented with emphasis on the positive.

Work Cards

On a daily basis, individuals receive a work card listing each of the employment behaviors taught in the Program. The employment behavior being addressed at the time is highlighted to serve as a visual prompt and to keep the individual focused.

Maintenance of Behavior Change

The structure of assigning specific employment behaviors to levels ensures a long maintenance period. Basic employment behaviors, for example, need to be maintained throughout PVT. If an employment behavior is achieved and the individual regresses later in the Program, the behavior is immediately readdressed. It also may require returning to a former level if regression continues.

Transference of Behavior

Upon completion of basic and social employment behaviors, most individuals go through a vocational evaluation. At the end of the Program they may also have a two-week assessment in the selected vocational training area. The purpose is to determine if the modified behaviors transfer from this environment to others.

Curriculum Development and Instructional Classes

In PVT there is a philosophy that many inappropriate employment behaviors are due to either a lack of personal awareness or differences in work values and beliefs. As a result, instructional classes related to employment are the mechanism used to instruct the code of conduct expected within the work environment. The work area then becomes the practice and demonstration site. The five curriculum components of the

Program are just as important as the performance in the work area.

Employment Behavior Curriculum
Each of the fifteen employment behavior categories are task analyzed with instructional competencies for each. These instructional competencies are taught through videos, film strips, role playing, etc. to demonstrate employer expectations.

Self Esteem Curriculum
This is a new curriculum added to PVT. Self-esteem activities are provided at the end of each day for designated individuals in Level I. The purpose is to increase self confidence and the feeling of self worth as individuals leave the work place and enter leisure and social time.

Occupational Awareness
This curriculum is currently being researched and developed. The focus is on assisting individuals in identifying strengths and limitations as related to employment. The underlying philosophy is that through better understanding of self, interests, and skills, one better visualizes the type of work which is enjoyable and successfully performed. Just as important is an understanding of work tasks which cause frustration and failure.

Career Awareness
PVT currently provides individuals in Level II the opportunity to examine different vocations, associated job duties, responsibilities, educational requirements, and salaries through a variety of commercial products.

Generic Trade-Related Math and Reading
Each individual entering PVT receives a Trade-Related Academic Competency (TRAC) assessment. For those requiring additional services, academic classes are provided to enhance math and reading skills.

Life Skills
Each individual entering PVT receives a life skills assessment. Academic classes are provided in the area of time telling and money management.

Summary

If education and rehabilitation professionals are going to be successful in transitioning special education students from school to work, we need to develop **innovative, consumer-oriented** programs which reflect **collaboration** and **integration** of principles from a variety of disciplines. This means that we must move forward challenging and testing fundamental principles, involving students in the design and implementation stages, and collaborating professions in the development and delivery of services.

If students are going to be successful in employment and community life, then we need to teach them the "real life" skills they are going to require. This begins with taking ownership of one's direction, developing decision-making skills, and assuming responsibility for one's actions. It is time, as members of the human services professions, that we stop doing it **to** and **for** them but rather **with** them. For the very purpose of education is to prepare individuals to be contributing members of society.

References

Brolin, D. (1989). Life-Centered Career Education: A Competency Based Approach. Reston, VA: The Council for Exceptional Children.

Couch, R. (1984). Basic Approaches to Adjustment Services in Rehabilitation. Journal of Rehabilitation Counseling, 15(3), 20-23.

Edgar, E. (1987). Secondary Programs in Special Education: Are Many of Them Justifiable? Exceptional Children, 53, 555-561.

Fry, R. & Botterbusch, K. (1988). VEWAA GLOSSARY. Menomonie, WI: Materials Development Center, University of Wisconsin-Stout.

National Longitudinal Transition Study, SRI International, Office of Special Education Programs, December, 1988.

Sitlington, P., & Kregel, A., Cooper, L. (1989, 1990, 1991). Iowa Statewide Follow-Up Studies, Iowa Department of Education, Des Moines.

VEWAA Bulletin (Special Baker Monograph edition), 1992, 25(3), 62-100.

Zeflin, A. & Hoseini, A. (1989). Six Post-School Case Studies of Mildly Learning Handicapped Young Adults. Exceptional Children, 55 405-411.

NATIONAL FORUM

VOCATIONAL ASSESSMENT OF STUDENTS WITH DISADVANTAGES: JUSTIFICATION FOR AN ABBREVIATED ASSESSMENT MODEL

DEBORAH NOLTE, M.S., C.V.E. and DONNA WAECHTER, Ph.D.

Abstract

This study attempted to examine the rational and components of a shortened assessment battery for secondary students with disadvantages. The assessment battery included the Apticom Computerized Aptitude and Interest Assessment; Valpar Worksample #8, Simulated Assembly; and Valpar Worksample #6, Independent Problem Solving. Differences between subtest mean scores by sex and by race were reviewed. A factor analysis revealed four factors within the assessment battery. These include cognitive skills/general intelligence, perceptual motor skills, clerical skills and visual-motor coordination. The factor structure, as expected, holds together.

Introduction

Little has been documented in the literature regarding the vocational assessment of students with disadvantages since the early 1970's. The term disadvantaged refers to individuals who have economic or academic disadvantages and who require special services and assistance in order to enable them to succeed in vocational education programs. The term includes individuals who are members of economically disadvantaged families, migrants, individuals who have limited English proficiency, and individuals who are dropouts from, or who are identified as potential dropouts from, secondary school. (Federal Register, August 16, 1985 p. 33233).

Numerous references can easily be obtained regarding vocational assessment of adults and students with disabilities. Moed (1960) and Neff (1968) identified five different vocational evaluation approaches which are utilized by vocational evaluators in rehabilitation facilities. These include:

- Psychological Testing Approach
- Job Analysis Approach
- Worksample Approach
- Situational Assessment Approach
- Job Tryout Approach

Nadolsky (1971) reviewed many of the manpower training programs from the 1960's and 1970's in his study to develop a model for vocational evaluation of individuals with disadvantages that was consistent with practices of vocational evaluators employed in rehabilitation and manpower training programs. Nadolsky's general assessment findings can be summarized below:

- Most psychological tests are not appropriate
- Relationship between test scores and general occupational requirements should be stressed
- Emphasize positive aspects of worksample results and compare performance on worksamples within different occupational areas
- Worksamples are practical, realistic assessments of job skills and provide immediate feedback
- Situational assessment is most effective if monetary rewards are provided
- Job tryouts used only after vocational planning from other assessments

The above constraints are compounded when you also add the component that the individual with the disadvantage is a secondary school student.

The Carl D. Perkins Vocational Education Act Amendments of 1984 required that disadvantaged students be provided a vocational assessment at least one year prior to eligibility to enter vocational education programs. The most current reauthorization, the 1990 Carl D. Perkins Vocational and Applied Technology Education Act, continues to designate a major portion of its funds for individuals with disadvantages. Vocational assessment is included in this legislation.

It is well documented that students with disadvantages do not score well on readily available formal tests of intellectual skills (Karp and Sigel, 1965; Society for Psychological Study of Social Issues, 1964). Students with disadvantages have more difficulty with reading, communication and other skills (Wircenski, 1985). The American Psychological Association Task Force on Employment Testing of Minority Groups (1969) found that students with disadvantages score substantially lower than others on nearly all aptitudes.

Freeberg (1970) acknowledged these assessment difficulties and attempted to create alternative assessment measures for students with disadvantages. He acknowledged that the assessment must address:

- Administration format - presentation style or appeal is important to consider
- Verbal content - maximum difficulty at the 5th grade reading level
- Pictorial content - to enhance test taking motivation
- Test length - test taking attention span in relatively short

Smith (1990) also acknowledges physical characteristics of the student with disadvantages:

- Rapid physical growth - metabolic changes result in increased food and rest consumption
- Grow of the mind - changes from concrete to abstract logic
- Search for identity - self concept as a learner develops
- Development of social skills - learning psychosocial roles

Beyond all of these accommodations which must be made in attempt to assess this population, working with disadvantaged students also requires motivating them to remain in school, identifying and removing barriers to student success, and providing basic skills remediation, support services, quality vocational training programs, and timely opportunities for students to utilize new occupational skills (Dunn, 1987).

Wircenski (1985) notes that there must be a viable, organized system for identifying the skills and abilities of each student with disabilities in the primary and middle school years. He goes on to state that the assessment must be on-going into the high school years. The assessment should include a complete review of the student's academic skills, learning styles, communication skills, aptitudes, vocational interests, family economic conditions, and social adjustment skills.

The student factor adds unique criteria for the vocational assessment. These characteristics are summarized below:

- Large numbers of students must be assessed as rapidly as possible to limit time away from classes.
- Due to attendance problems assessment must be completed in one sitting.
- Assessments must provide implications for relevant local training programs and locally available employment opportunities.
- Assessments must be completed at the eighth to ninth grade level in order to implement plans that address the scope of services needed at the secondary level.
- Assessments must be in a form that addresses the limitations of students with disadvantages (i.e. limited reading and math skills).
- Assessment data must be presented to the student and appropriate school and community staff and family members that is understandable and relevant to the local employment market.
- Assessments must address prevocational skills such as on-task behaviors and school attendance.

In combination, these factors document a definite need for development and documentation of a workable model for vocational assessment of students that are disadvantaged in secondary schools.

Purpose

The purpose of this study was to examine the underlying factor structure of the aptitudes and worksamples being completed by the students being assessed with the current assessment model in Akron Public Schools, Akron, Ohio. Further, the amount of variance accounted by the factors was sought to be determined. Clarification was sought to determine if any differentiation exists between races and between sexes on the assessment measures.

Method

During the last four school years; 1988-1989, 1989-1990, 1990-1991, and 1991-1992; students in the Occupational Work Adjustment (OWA) classes in Akron Public Schools have completed a vocational assessment battery. Students in OWA are generally in the ninth grade, although a small number of tenth graders may also be in this program. Potential students are usually referred by the eighth grade counselors for the OWA program. OWA students meet the disadvantaged classification by exhibiting behaviors that cause them to be high risk for dropping out of school. Generally, attendance and/or school behavior problems are prominent in the years prior to ninth grade. Another reason for OWA placement might be economic need for employment. OWA students are in school each morning and are employed in the afternoons. Employment is a requirement of the program. There is at least one OWA program in each of the eight comprehensive high schools in Akron.

File records have been maintained for each OWA student completing vocational assessment. This study involved only nonreactive file review measures.

There are 481 complete assessments in this study. 38% (N=183) of the students were African-American. 61.3% (N=295) of the students were Caucasian, and .6% (N=3) were of other racial backgrounds. 69% (N=334) were male students and 31% (N=147) were female students. All students were enrolled in the OWA programs and met the definition of being either academically or economically disadvantaged. All students were in the ninth or tenth grade of school.

Instrumentation

The vocational assessment battery which was completed by the OWA students in Akron Public Schools included the Apticom Aptitude Battery; the Apticom Occupational Interest Inventory; Valpar worksample #8, Simulated Assembly; and Valpar worksample #6, Independent Problem Solving. There are 481 case files of students who completed this battery. There was no missing data in any student file.

The Apticom is a computerized assessment of an individual's vocational aptitude skills and vocational interests. According to Bottenbusch (1987), the Apticom system was designed for disadvantaged job applicants, high school or special education students, and rehabilitation clients. There are eleven subtests in the aptitude assessment ranging in length from 45 seconds to 7 minutes to complete. Test taking attention span is a factor which must be addressed with this population. The aptitude assessment can generally be completed in approximately 45-60 minutes. The individual uses a probe to select the correct answer on the electronic board format. A forced choice format is utilized. Hardware is utilized for the eye-hand-foot coordination subtest and the finger and manual dexterity subtests. The aptitudes are reported in standard scores.

The Apticom Occupational Interest Inventory is also a forced choice format. It consists of 162 items using a like-?-dislike format. This section requires 4-5 grade reading level. However, items may be read to the individual. It takes approximately 10-30 minutes to complete. A printed report is available immediately following administration. Analysis of the interest information is not included in this study.

The Apticom aptitude system is based on the U. S. Department of Labor definitions of ten of the eleven aptitudes (except color discrimination), with much of the design and test item format closely resembling those of the General Aptitude Test Battery (GATB).

Aptitude	Description
G - Intelligence	General learning ability. The ability to "catch on" or understand instructions and underlying principles; the ability to reason and make judgments. Closely related to doing well in school.
V - Verbal	The ability to understand meaning of words and to use them effectively. The ability to comprehend language, to understand relationships between words, and to understand meanings of whole sentences and paragraphs.
N - Numerical	The ability to perform arithmetic operations quickly and accurately.
S - Spatial	Ability to think visually of geometric forms and to comprehend the two-dimensional representation of three-dimensional objects. The ability to recognize the relationships resulting from the movement of objects in space.
P - Form Perception	Ability to perceive pertinent detail in objects or in pictorial or graphic material. Ability to make visual comparisons and discriminations, to see slight differences in shapes and shadings of figures, and widths and lengths of lines.
Q - Clerical Perception	Ability to perceive pertinent detail in verbal or tabular material. Ability to observe differences in copy, to proof read words and numbers, and to avoid perceptual errors in arithmetic computation. A measure of speed of perception is required in many industrial jobs even when the job does not have verbal or numerical contents.
K - Motor Coordination	Ability to coordinate eyes and hands or fingers rapidly and accurately in making precise movements with speed. Ability to make movement response accurately and swiftly.
F - Finger Dexterity	Ability to move fingers and manipulate small objects with fingers, rapidly, and accurately.
M - Manual Dexterity	Ability to move hands easily and skillfully. To work with hands in placing and turning motions.
E - Eye-hand-foot Coordination	Ability to move the hand and foot coordinately with each other in accordance with visual stimuli.

The Apticom Aptitude Assessment consists of the following subtests. Following the subtest name is the aptitude(s) it measures and the length of the subtest. Notice that the subtests are fairly short, the longest being seven minutes. The number of items in a subtest is also noted.

	Apticom Subtest	Aptitude	Subtest Length/Items
1	Object identification	P	1 min., 30 items
2	Abstract shape matching	P	2 min., 30 items
3	Clerical matching	Q	1 min., 30 items
4	Eye-hand-foot coordination	E	45 sec.
5	Patter visualization	S & G	5 min., 30 items
6	Computation	N	4 min., 30 items
7	Finger dexterity	F	2 min.
8	Numerical reasoning	N & G	7 min., 23 problems
9	Manual dexterity	M	2 min.
10	Word meanings	V & G	2 min., 15 sec.; 30 items
11	Eye-hand coordination	E	45 sec.

Two Valpar worksamples are also included in the Akron Public School assessment battery. These worksamples are based on a trait and factor approach taken from job analysis (Botterbusch, 1987).

Valpar worksample #8, Simulated Assembly, assesses the ability to perform a repetitive task requiring finger and manual dexterity. Two plastic washers are assembled onto a pin and placed into a rotating wheel. The more parts assembled the higher the score. Incorrectly assembled parts are not counted. The worksample is twenty minutes in length. Observations are made during the worksample regarding on-task skills, work method, fatigue, bimanual dexterity, and the ability to follow directions.

Valpar worksample #6, Independent Problem Solving, measures ability to perform tasks requiring the visual comparison and selection of abstract designs. The individual is presented with a set of fifty cards. Each card has five abstract designs of various primary colors. At the top of the worksample are three sample cards containing five abstract designs. The task is to compare the card to the corresponding sample card and check for abstract design color matches. If the match is not present a mark must be made with a stylist on the perforated grid. Two scores are obtained. Speed of task completion is the quantity score. Errors made during completion is the quality score.

The two Valpar worksamples are reported in Method-Time-Measurement (MTM) percent scores. MTM is an industrial engineering acronym. According to Todd and Chyatte (1976), MTM is a discipline developed in the late 1940's to establish standards of normal performance, improve existing methods, and synthesize anticipated production. In the Valpar-spective (1976), MTM's were discussed in relation to theory and to practice. In theory, MTM is defined as a procedure which analyzes any manual operation or method into the basic motions required to perform it and assigns to each motion a predetermined time standard which is determined by the nature of the motion and the conditions under which it is made. In practice, MTM's provides an objectively-derived, entry-level production standard by which an evaluee's worksample performance can be compared. Percent rankings above 100 can be achieved. The MTM norm format accommodates performance up to and including 150 percent with 100 percent representing entry level job-readiness in terms of what the worksample is designed to measure.

Procedure

The assessments were completed in the student's home school. Two students were tested simultaneously. Each student verbally completed a short vocational interview with the vocational evaluator. Following the interview, one student initiated the Apticom subtests while the other student completed Valpar worksample #8 then Valpar worksample #6. The two students then switched positions and completed the other half of the assessment battery. The assessments were conducted during the morning school time as these students are assigned to work sites in the afternoon. The assessment required approximately 2 1/2-3 hours to complete for both students. The assessment was completed in entirety, thus not requiring the student to return for additional assessment time. Following completion of all students in the individual OWA class, test results were shared with the students and individual staffings were held to develop vocational plans.

Results

A factor analysis was performed in order to simplify the description of behaviors by reducing the categories to a few common traits. A principal component factor analysis was done in this case to determine the number of factors/concepts involved in the present battery. Only factors with eigenvalues greater than 1 were retained for interpretation. A correlation matrix using unities as estimates of communalities served as input.

Factor loadings are interpreted as correlation coefficients between the variable and the factor. The proportion of variance accounted for by a factor measures the overall correlation of the variables with the factor. Factor 1 accounted for 29.8% of variance with loadings ranging from .35 to .76. Loadings on Factor 2 ranged from -.55 to .49. Factor 2 accounted for 14.5% of variance. The third factor had loadings ranging from .05 to .60 and contributed 8.4% of variance. The forth factor contributed 8.1% of variance and had loadings of values from .04 to .51. (A summary of this analysis is available from the authors.)

Whereas unrotated factor loadings for each variable are dependent on all the variables in the analysis, in rotation the shift is from factors maximizing total variance to factors delineating separate groups of highly intercorrelated variables. A varimax rotation was performed and new factor loadings emerged. The rotated factor structure suggests that the battery content can be described by four constructs. Factor loadings with an absolute value of .44 are defined by the authors as meaningful and are presented in Table I. Inspection of significant item loadings suggested names for each factor which were descriptive of the skills and abilities involved in each measure. Items loadings on the first factor indicate that this is measuring general intelligence. Factor 2 encompasses a perceptual motor component. Factor 3 measures clerical skill/attention to detail. The construct underlying factor 4 is visual-motor coordination.

Inspection of Table I shows that the numerical aptitude loads significantly on both factors 1 and 3 which is reasonable, considering the task involved. The numerical test is made up of a calculation component, involving clerical skills and attention to detail, and an applied problem component, requiring cognitive skills. The quantity score on Valpar worksample #6 loads negatively on both factors 2 and 4. This test encompasses both perceptual motor and visual motor skills. On this timed test, the lower the score the better.

Table I

Table of Highest Loadings of
Thirteen Items Used in Vocational Assessment Battery

Varimax Rotation

	Factor 1	Factor 2	Factor 3	Factor 4
Cognitive/General Intelligence Skills				
• General Intelligence (G)	.90016			
• Spatial (S)	.78796			
• Vertul (V)	.69957			
• Numerical (N)	.55810		.53506	
• Form Perception (P)	.51042			
Perceptual Motor Skills				
• Finger Dexterity (F)		.71401		
• Manual Dexterity (M)		.70667		
• Quantity-Valpar 8 (QT 8)		.70322		
Clerical Skills				
• Quality-Valpar 6 (QL 6)			.68802	
• Clerical (Q)			.67592	
Visual Motor Skills				
• Eye-Hand-Foot (E)				.76523
• Motor Coordination (K)				.64716
• Quantity-Valpar 6 (QT 6)		-.4447		-.45787

A Hotelling's T^2 multivariate analysis was performed in order to determine if there were significant differences between two groups on one or more of thirteen dependent variables, after adjustment had been made for possible correlations among the variables.

The multivariate analysis of sex by race was not significant. However, Hotelling's T^2 on the two major racial groups differed significantly (p=.000) on at least one of the thirteen dependent variables. Table II shows means and standard deviations and also indicates that there were potentially seven measures where performance was significantly different. After controlling for multiple comparisons, five significant differences remain; general intelligence, verbal aptitude, numerical aptitude, the quality score on Valpar worksample #6 and the quantity score on Valpar worksample #8. The two groups performed similarly on the other eight measures.

Table II

Univariate F Tests on
Each of Thirteen Measures Between
African Americans and Caucasians

Aptitude	African Americans (N=183) X (sd)	Caucasians (N=295) X (sd)	F (df=1,474)	Significance Level
G	90.727 (6.902)	95.000 (8.003)	29.493	000
V	82.306 (11.571)	87.692 (13.132)	18.519	000
N	95.055 (7.121)	97.556 (8.151)	10.376	001
S	92.087 (12.703)	95.495 (13.918)	3.496	NS
P	106.000 (10.175)	106.339 (10.803)	125	NS
Q	95.650 (18.056)	94.231 (18.058)	217	NS
K	103.055 (16.752)	101.353 (16.349)	.849	NS
F	127.885 (17.641)	131.359 (17.226)	4.939	.027
M	96.721 (10.919)	98.241 (10.846)	2.133	NS
E	90.180 (19.628)	92.525 (18.097)	1.538	NS
QL 6	52.475 (32.942)	64.627 (32.265)	7.992	005
QT 6	98.158 (59.187)	110.298 (54.984)	18.215	.000
QT 8	79.918 (13.825)	84.336 (14.710)	10.686	.001

The Hotelling's T^2 multivariate analysis of the effect of sex across the thirteen tests was also significant at .000. Inspection of the univariate F tests, given in Table III suggests that, after controlling for multiple comparisons, there were three measures which were statistically significant. For spatial and form perception aptitudes, males performed considerable superior to females. On clerical perception, female performance was significantly better. One other test, the quality score on Valpar worksample #6 approached significance, again with females having the highest scores. The two groups performed similarly on all other measures.

Table III

Univariate F Tests on Each of
Thirteen Measures for Males and Females

Aptitude	Males (N=334) X (sd)	Females (N=147) X (sd)	F (df=1,474)	Significance Level
G	93.808 (7.990)	92.224 (7.497)	3.974	.047
V	86.240 (12.811)	84.054 (12.734)	3.151	NS
N	96.482 (7.939)	96.837 (7.640)	.209	NS
S	95.629 (13.631)	90.762 (12.719)	10.739	.001
P	107.284 (10.301)	103.721 (10.678)	11.741	.001
Q	92.620 (17.059)	99.639 (19.190)	13.839	.000
K	101.284 (16.369)	103.333 (16.802)	1.172	NS
F	129.515 (17.395)	130.925 (18.024)	.384	NS
M	97.422 (11.003)	97.952 (10.694)	.128	NS
E	91.979 (18.132)	90.408 (20.072)	.842	NS
QL 6	56.901 (32.607)	66.689 (32.818)	.512	NS
QT 6	103.455 (58.117)	109.973 (54.175)	7.428	.007
QT 8	82.362 (15.267)	83.170 (16.675)	.183	NS

Discussion

This exploratory study has been an attempt to justify the abbreviated vocational evaluation battery. The authors feel that the abbreviated battery is well accepted by the students completing vocational assessment. It does provide adequate information to initiate vocational planning. The battery meets the needs of the school in that it assesses students quickly and is completed in one administration. The factor structure obtained suggests that this battery does a good job of measuring vital vocational skills.

Our sample is, of course, non-random and not representative. Subjects in this study were referred to the OWA program from a pool of eighth graders because they were believed to be potential drop outs or to have an economic need to work. Eighth grade counselors, from a variety of middle schools selected students for a variety of reasons. There are inequities in the percentage of male versus female referrals. Selection bias could be contributing to mean differences between groups. The discrimination between groups by sex and race may not be due to the test itself. Perhaps brighter male students, who have difficulty focusing on traditional subject matter are referred while their female counterparts are not. Minority students and females may be screened out because they are seen as being served better in more traditional academic environments.

The obtained factor structure holds together well. The abbreviated battery appears to adequately measure cognitive, perceptual-motor, clerical, and visual-motor skills. Even though this factor structure makes sense, it may be unique to the age and ability of the sample, which was young, unskilled, and inexperienced. We did not begin this exploratory study with a random or representative population. The present sample, with experience, may have yielded a somewhat different factor structure. Also a random sample, given the same battery may have broken out the factor structure somewhat differently.

In interpreting the assessment results, clinical judgement should always be utilized in addition to the resulting test scores. These scores should be used as a component in the determination of a student's vocational goals. Judgement regarding program selection should not be made on the basis of any single score. Test scores may be used in association with observational reports from other sources and may be weighted by professional judgement along with a variety of input from various sources.

Implications

There are four major implications for further research. First, the referral criteria needs to be investigated. Second, perhaps there is a need to have separate norms, by race and sex, which could be developed locally. National norms may discriminate inappropriately, if they are applied to samples of students such as those included in the present study. Third, the factor structure should be verified with other groups of subjects. Fourth, evaluators need to be aware of the problems in applying the usual interpretation of test data to nonrepresentative groups. Evaluators are encouraged to use their clinical judgement as well as test scores in making recommendations.

References

American Psychological Association, Task Force on Employment Testing of Minority Groups (1969). Job testing and the disadvantaged. American Psychologist, 24 (7), 637-650.

Botterbusch, K.F. (1987). Vocational Assessment and Evaluation Systems: A Comparison. University of Wisconsin-Stout, Menomonie, WI: Materials Development Center.

Dunn, T. (1987), Connecting with the disadvantaged. Vocational Education Journal, 62 (2), 35-36.

Federal Register (August 16, 1985). Part VII, Department of Education: State Vocational Education Programs and Secretary's Discretionary Programs of Vocational Education; Final Regulations.

Freeberg, N.E. (1970). Assessments of disadvantaged adolescents: A different approach to reach and evaluation measures. Journal of Educational Psychology, 61 (3), 229-240.

Huck, S. W., Cormier, W. H., & Bounds, W. G. (1974). Reading Statistics and Research., New York: Harper & Row.

Karp, J. M. and Sigel, I. (1965). Psychoeducational appraisal of disadvantaged children. Review of Educational Research, 35, 401-412.

Moed, M. G. (1960). Procedures and practices in prevocational evaluation: A review of current programs. Proceedings of the Iowa Conference on Prevocational Activities, State University of Iowa.

Nadolsky, J. M. (1971). Development of a model for vocational evaluation of the disadvantaged. (Research Grant No. 12,-p-55140/4-01), Interim report. Auburn, Alabama: Auburn University.

Neff, W. S. (1968). Work and human behavior. New York: Atherton Press.

Rummel, R. J. (1970). Applied Factor Analysis. Evanston, Illinois: Northeastern University Press.

Smith, F. (1990). Help! It's Bart Simpson! Vocational Education Journal, 65 (7), 28-29.

Society for the Psychological Study of Social Issues (1964). Guidelines for testing minority group children. Journal of Social Issues, 20, 127-145.

Todd, H. C. and Chyatte, S.B. (1976, September). A system for assessment of worksample norms in rehabilitation facilities by application of predetermined time standards. Paper presented at the Georgia Rehabilitation Facility, Vocational Evaluation Workshop, Atlanta, GA.

Staff. (1976). Methods time measurement - another tool for the VCWS practitioner. Valpar-spective, 2, (1), p.5.

Wircenski, J. F. (1985). Are we really serving disadvantaged youth? Vocational Education Journal, 60, (3), 27-29.

Deborah Nolte, M.S., C.V.E.
Akron Public Schools
Akron, OH 44308
216-434-7774

Donna Waechter, Ph.D.
Akron Public Schools
Akron, OH 44308
216-434-1661

BEST COPY AVAILABLE

FOLLOW-UP—A LOOK AT LONG TERM RESULTS FROM SCHOOL-BASED VOCATIONAL EVALUATION

DEBORAH A. GROSSER, CHIEF VOC. EVALUATOR, PACES
THOMAS J. SCHMITT, VOCATIONAL EVALUATOR, PACES
AND
NANCY L. SCOTT, M.S. CVE, CORD. OF VOC. SER., PACES

Abstract

Vocational evaluation has been shown to have positive effects on career and vocational planing for special needs students. Through vocational evaluation students are placed in vocational programs that match both their interests and abilities. This allows for better success in their prospective programs as shown in several past studies on vocational evaluation. The question then arises--what impact does vocational evaluation have on a student's long term success? The purpose of a follow-up study, recently completed by the staff at PACES Vocational Evaluation Center, was to answer this question. The preliminary results indicated that when vocational evaluation recommendations are implemented, the students have a better chance to achieve success beyond high school. More specifically, when students who had been placed in recommended programs were compared with those placed in programs not recommended by the vocational evaluator, it was found that a significantly higher percentage of students were gainfully employed when the recommendations had been implemented. This is just a sample of the results that were found following a formal survey of all students evaluated at PACES during the 1989-90 school year. The final results of the follow-up survey will be revealed in this paper. Information as to how the survey was completed and what conclusions were drawn from it will also be discussed.

Introduction

Hundreds of reports have been made as to the purpose of vocational evaluation and the potential results of such a process. Darrell Coffey, Ed.D., in his editorial in the Vocational Evaluation and Work Adjustment Bulletin, states "As a result of [vocational evaluation and work adjustment specialists] at least three good things can follow: (1) people with disabilities will function better in training and on the job, (2) counselors, job coaches and other service workers will be better able to provide enhanced rehabilitation services, and (3) employers will be referred more appropriate clients so that they can and will: (a) better train clients and (b) respond more positively and supportively when new clients are referred." In her paper, in The Issues Papers from the Fourth National Forum on Issues In Vocational Assessment, March, 1989, Deborah Nolte, M.S., CVE writes "As defined by the VEWAA Glossary (1988), vocational evaluation is a comprehensive process that systematically uses work, either real or simulated, as the focal point for assessment and vocational exploration, the purpose of which is to assist individuals in vocational development." Finally, Jean P. Lehmann and Nancy K. Hartley, in the same manual report in their article titled, "Effective Assessment Practices in Vocational Education", "Vocational Assessment can provide valuable information to guidance administrators and most importantly, the student. Through a well-coordinated evaluation program, the student can explore occupations, gain experience in different job tasks, identify career goals, improve self-concept, and better define career objectives".

Several past studies have been completed to determine the effectiveness of vocational evaluation on the student's vocational success. For example, in a follow-up study completed by Phyllis N. Hallenbeck and John L. Campbell and reported in the VEWAA Bulletin, Volume 8, December, 1975, a group of 237 clients were surveyed to determine the predictability of their employability. The compiled data indicated that "70.5 percent of the evaluators' predictions were on target, 16 percent were over-estimates, and 13.5 percent were under-estimates." It was then concluded that evaluators should be thought of as having 70 to 85 percent accuracy with their recommendations.

In their article published in the VEWAA Bulletin, Fall 1991, Henry Adams and Debra A. Neubert outlined a study done through a regional vocational assessment center. Their findings showed that 16 of the 128 students recommended for a vocational education program either transferred or dropped out before placement within the specified training program. Eighty-one percent of the 112 remaining students actually enrolled in vocational training programs. Seventy-one percent of these students were placed in programs recommended by the vocational assessment. Students in this survey were interviewed directly and collected data indicated that seventy-eight percent of those placed in recommended programs stated goals that were directly related to their vocational programs.

Through recent research conducted by the staff at the PACES Vocational Evaluation Center, it has been found that vocational evaluation will not only positively affect a student's performance in vocational programs by enhancing career planning, but will also have lasting effects on the long range achievements of these students.

The PACES Vocational Evaluation Center is a regional program serving both special education and disadvantaged students. Special education populations include mentally retarded, learning disabled, emotionally disturbed, physically handicapped, visually impaired, and hearing impaired. Disadvantaged students are determined as being either academically, culturally or economically disadvantaged. Evaluations generally last 2 days for disadvantaged students and 4 days for special education students. The evaluation process involves vocational exploration and assessment through the use of commercially and locally developed work samples. Vital data collected through the evaluation process includes: referral information, medical/psychological reports, results of interest, achievement and aptitude testing, job seeking/keeping skills assessment and behavioral and performance observations. All of this information is synthesized and used in determining a student's optimal level of vocational functioning.

Method

The follow-up study was completed on students evaluated at the PACES Vocational Evaluation Center during the 1989-90 school year from five school divisions. The first step was to obtain copies of high school transcripts for all students, both special education and disadvantaged, evaluated during the 1989-90 school year. It was then necessary to establish the number of students still enrolled in high school during the 1992-93 school year and those that had either graduated, dropped or moved. Two separate steps needed to be completed at this point: (1) determining vocational program placement for those students still enrolled in high school and (2) locating those students who were no longer enrolled in school to determine whether they had dropped, moved, or graduated. Phone calls were made to those students who were no longer enrolled in the school system to determine if they had found employment and where they were working. The students who had 1992-93 high school transcripts were not contacted in person, however sufficient information was obtained from their transcripts to complete the survey. The information sought for the survey included the following:

1. Were the students placed in the programs recommended by the vocational evaluation report?
2. How successful were the students in their vocational program, whether or not they were in a recommended program?
3. Of the students who were no longer enrolled in school, how many had graduated, dropped or moved?
4. Of the students who were no longer enrolled in school, how many had received vocational training? Was the training received in an area that was recommended by the vocational evaluation report?
5. Of the students who were no longer enrolled in school, how many were employed? Were they employed in the area for which they had received training?
6. Of the students who were no longer enrolled in school, how many were receiving further training?

The results of the survey were then tallied to answer those questions and to determine the effectiveness of the vocational evaluation on long term success.

Results

Short Term Follow-up Study Results

Initially, results were obtained from those students who were still enrolled in school by using necessary information found in their transcripts. In a comparison of grades between those special education students who were placed in the programs recommended by the evaluation and those students who were placed in training programs other than those recommended, it was found that a significantly higher number of students placed in recommended programs were receiving average to above average grades. More specifically, 83% of the students in recommended programs were receiving grades A-C as compared to those not in their recommended programs where as only 39% were receiving grades A-C. Only 10% of those placed in recommended programs were receiving D's compared to the higher 32% who were receiving D's and not placed in recommended programs. The same held true for those receiving F's where 39% of the students not placed in recommended programs were getting an F as opposed to 7% who were in recommended programs and getting an F. Figure 1 will better illustrate those results.

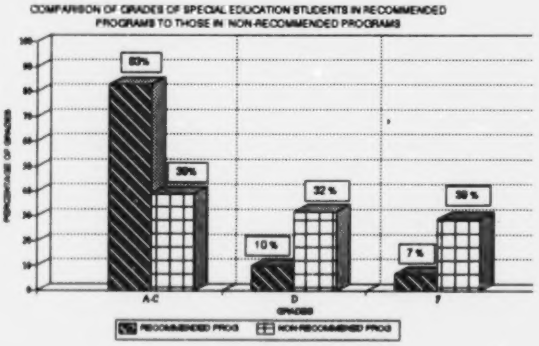


Figure 1

In a similar study completed with the disadvantaged students evaluated at PACES, results were similarly promising for those placed in recommended programs as shown in Figure 2.

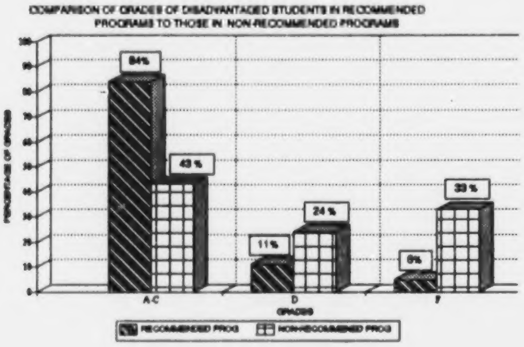


Figure 2

Long Term Follow-up Study Results

Results obtained from the study of those students who had exited the school system since their evaluation in 1989-90 were equally positive. Thirty three percent of the students phoned were reached. The results compiled were based on this number. From these phone calls, it was found that 86% of the students were either working in the field in which they were trained or they were receiving further training in the area that was recommended. Of the students placed in programs that were not recommended only 13% were employed in the field for which they were trained. Thirty-one percent of the students who had received no vocational training were employed but most of those students were working in minimum wage, unskilled jobs. Figure 3 better illustrates this information. A breakdown of the survey information is presented in Table 1.

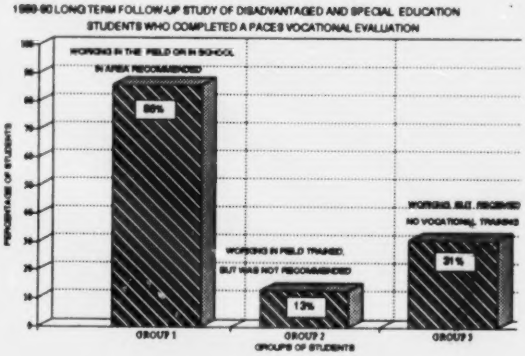


Figure 3

1989-90 LONG TERM FOLLOW-UP STUDY OF DISADVANTAGED & SPECIAL EDUCATION STUDENTS WHO COMPLETED A PACES VOCATIONAL EVALUATION

	Disadvantaged Graduated	Disadvantaged Moved/Dropped	Special Educ Graduated	Special Educ Moved/Dropped
Total # of students evaluated 89-90	51	47	19	38
# Reached by telephone	25	12	8	6
# Telephone Disconnected	19	19	8	21
# Not at Home	2	8	3	2
Completed Vocational Program Recommended	14	2	5	0
# Working in field in which trained	5	1	4	0
# In School Area Recommended	7 *	0	1	0
# Not Working	2	1	0	0
# Working in Unrelated field of voc. training	1	0	0	0
Completed Vocational Program Not Recommended	7	6	2	0
# Working in field in which trained	0	0	2	0
# In School Area Recommended	2	1	0	0
# Not Working	3	1	0	0
# Working in Unrelated field of voc. training	2	4	0	0
No Vocational Program in High School	5	4	0	7
# In School Area Recommended	3	0	0	1
# Working	1	3	0	1
# Not Working	1	1	0	5

* In School and Working (1 person)

Table 1

Conclusion

Based on the results of this and other surveys it has been found that students do significantly better in vocational training programs as well as in obtaining jobs if they are exposed to careers and career planning through a formal vocation evaluation and recommendations from the evaluation are incorporated into their high school career planning. Not only are students better prepared to enter and succeed within their specified training programs on a short term basis, but they are better prepared to enter the work force and to obtain a job in the field for which they were trained. Many of the students in the survey were receiving further training in the areas recommended. Some of these students had not initially received training while in high school, but following graduation decided to pursue this career area through post-secondary education programs. Those students who had been evaluated but not placed in recommended programs were more likely to struggle within those programs and less likely to pursue employment within the field for which they trained.

This information alone should be motivation for school systems to take advantage of the vocational evaluation programs available to them or to consider funding such a program if it is not currently available to them. Guidance counselors should be encouraged to incorporate into the students' career planning guide the information found in the vocational evaluation report. Evaluators should use these results as encouragement and inspiration to continue to perfect their skills as evaluators and to keep up on current trends and issues within the profession to ensure success for the future workers of America.

References

Adams, H. and Neubert, D.A. (1991). VEWAA Bulletin, 101-107. A Follow-up of Vocational Assessment Recommendations and Placement in Secondary Vocational Education Programs for Students with Disabilities.

Campbell, J. L. and Hallenbeck, P. N. (1975). VEWAA Bulletin, 21-27. Evaluator Recommendations and Subsequent Performance: A Follow-up of Work Evaluation Clients.

Coffey, D. (1989). VEWAA Bulletin, 3. A Look at Vocational Evaluation and Supported Employment.

Nolte, D. (1991). National Forum on Issues in Vocational Assessment, 107-111. Four Perspectives of Vocational Evaluation.

Deborah A. Grosser
Thomas J. Schmitt
Nancy L. Scott
PACES
13400 Woodside Lane
Newport News, VA 23602

VOCATIONAL ASSESSMENT OF PERSONS WITH SEVERE AND PROFOUND DISABILITIES
WHAT'S REALLY BEING DONE?

KAREN L. SHANAHAN, M.ED.
KENT STATE UNIVERSITY, KENT, OHIO

Abstract

The concept of supported employment is one of the most rapidly growing and changing areas in special education today. Vocational assessment of persons with severe disabilities moving into supported employment has become a topic of debate. While some professionals maintain that individuals should be assessed directly on the job, assessing and training for that specific position; others state that standardized assessment instruments are the true indicators or predictors of a person's abilities. A study was conducted in N. E. Ohio that attempted to determine current practices being used in the field with persons having severe mental retardation. Related concerns of assessment techniques, test modification, and job placement were also addressed by the survey.

Over the last decade, we have experienced rapid growth and change in the employment of persons with severe mental retardation. Supported employment, developed as an alternative to both sheltered employment and time-limited vocational rehabilitation services, enabled those persons with limited work experience and in need of ongoing support to become successfully employed in community-based settings.

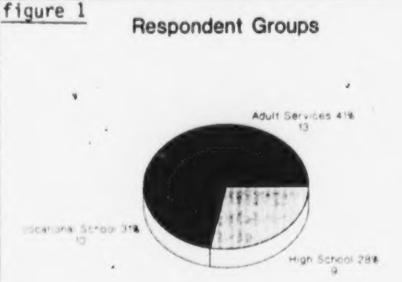
As supported employment evolved, the difficulties of accurately assessing individuals with severe disabilities became apparent (Evans & Brown, 1986). Traditional, lab-based vocational evaluations tended to indicate that persons with severe mental retardation were unlikely candidates for community employment. The reports focused on remediation of deficits, or pre-vocational skill requirements. Often, persons with moderate, severe, or profound mental retardation were screened out of, or declared ineligible for services when evaluated with standard testing procedures (Meyer, Peck, & Brown, 1991).

It became clear, over time, that it would be essential, for the prospective employees' success, to focus on abilities and performance in the proposed work environment. This approach to assessment, called functional or ecological assessment, identifies an individual's work characteristics and necessary training strategies in relation to a specific job's requirements (Menchetti & Rusch, 1988). The need for functional assessment became more obvious when persons declared incapable of nonsheltered employment by traditional vocational evaluations began working successfully in supported employment.

While recent literature has supported the development of alternatives to traditional vocational assessment and evaluation, practitioners in the field are not always as responsive as one might wish. This study was designed to explore current vocational assessment and evaluation practices in supported employment of persons with moderate and severe mental retardation.

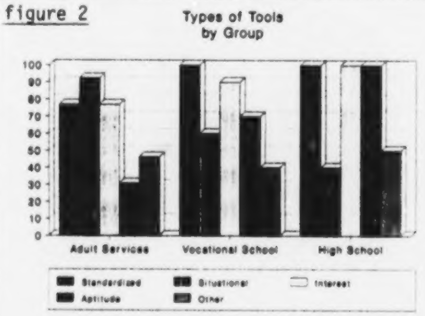
A questionnaire, consisting of a variety of open ended and check-off type questions was mailed to 90 vocational facilities, vocational school, or school-based vocational evaluators. The return rate was 46%. Of those questionnaires returned, 32 were identified as serving persons with mental retardation, and had completed the forms adequately enough to contribute data. Three groups of respondents became evident: Adult Services Programs, Traditional High Schools, and Vocational Schools (figure 1).

figure 1



It was the intent of this study to determine the types of assessments facilities specializing in habilitation of persons with mental retardation were utilizing. The types of assessment tools used seemed to cluster into five categories: Standardized tests, situational or functional assessment, interest inventories, aptitude tests, and others (generally work samples). As shown in figure 2, standardized testing was used more frequently in high school and vocational school evaluations. As anticipated, situational assessments were used more frequently in Adult Services programs serving adults with mental retardation. A move away from traditional assessment practices was noted by the rather high incidence of situational assessment being used in vocational schools. The wide-spread use of interest inventories was encouraging. This indicates that we are including the prospective employee in one of the most important decision making processes in their adult life. As transitional planning continues to unfold, increased participation in future plans will necessitate awareness of personal interests and options. Aptitude tests, while used by all three groups, were utilized more frequently in high school settings. Other tools used included work samples, interviews, and homemade tests.

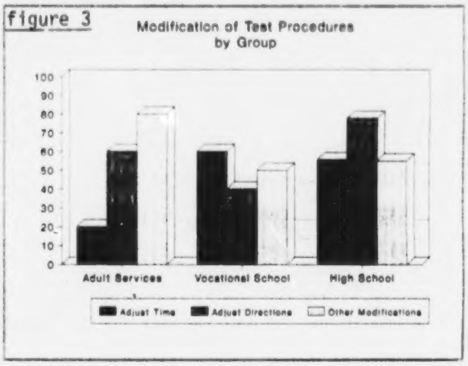
figure 2



The scope of vocational assessments differed greatly. While most vocational schools and high schools reported using six or more assessment tools in a vocational evaluation, one-half of the Adult Services programs only used between one and three assessment instruments. Within these evaluations, Adult Services programs reported most commonly using the McCarron-Dial System, the Becker reading-Free Interest Inventory, Virginia Commonwealth assessments and selected Valpar tests. While vocational schools and high schools utilized these tests, they were also more diverse in selection. Both school groups reported using Apticom and Oasys. Neither of the school based groups reported using Virginia Commonwealth Assessment materials.

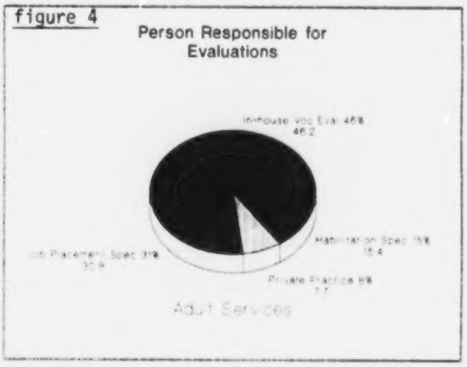
Next, test modifications were addressed. Menchetti and Udvari-Solner (1990) state that the absence of the skills required to complete many traditional vocational tests creates a serious reliability question when used with persons having severe mental retardation. Modification of standard testing procedures will be necessary to obtain accurate information. All groups of respondents stated that they made modifications of some sort at least 75% of the time. High School evaluators were the most flexible in their testing procedures. When evaluator profiles were developed, it was determined that neither years of education nor years of experience had any bearing on willingness to make modifications. Most common modifications clustered into three areas: Time changes, direction/method changes, and physical modifications (figure 3).

figure 3



Time changes usually consisted of deleting time limits on standardized tests. Direction adjustments included reading the direction aloud, practicing test questions, simplifying questions, and breaking the test into smaller, more manageable segments. Other modifications, most often used in Adult Services programs included; reading the test aloud, helping the testee complete the test, tape recording answers, physical adaptations, and braille test versions. At least 67% of evaluators stated that they were satisfied with their current evaluation practices, modifications, and instruments available for their use. Vocational School evaluators indicated a higher level of satisfaction at 90%. Test modification appears to be widely accepted and utilized by today's vocational evaluators.

figure 4



Profiles of vocational evaluators in the three types of programs were also developed. In high school and vocational school settings, the typical evaluator of special education students held the title vocational evaluator. Adult Services programs utilized a more diverse group in completing vocational evaluations (figure 4). Job Placement and Habilitation staff were equally involved with evaluators in assessing vocational abilities. Vocational evaluators responding to the survey all had at least three years experience with the MR/DD population with at least 50% having ten years or more of experience. Educational levels of evaluators generally was higher in vocational and high school settings where at least 70% had attained a masters degree or higher. High School and Vocational School evaluators indicated that 90% had taken three to five classes in specialized vocational assessment, but only 67% had been formally trained in working with persons with severe or profound disabilities. Adult Service evaluator personnel had less formal vocational assessment training, on the average one to three classes, but 91% had specialized training in working with the severe and profound population levels. The current emphasis of vocational rehabilitation services on employment of persons with severe disabilities necessitates training for, experience with, and acceptance of persons in this population. This survey indicates that currently education and rehabilitation preparatory programs are addressing this need.

In the process of evaluating the survey data, it becomes clear that the field of vocational evaluation has made great efforts to contribute to the vocational success of persons with severe disabilities. There is a willingness to work in partnership with supported employment programs, adjust traditional evaluation techniques, and be more creative in their vocational recommendations. As community-based vocational programs continue to grow and evolve more and more collaboration can be anticipated. Community-based assessment was mentioned repeatedly by evaluators. There was a clearly established theme of flexibility in vocational assessment techniques, a willingness to work with special education personnel, and a commitment to employing persons with severe disabilities.

References

Evans, I., & Brown, F. (1986). Outcome Assessment of Student Competence: Issues and Implications. Special Services In the Schools, 2(4), 41-62.

Gaylord-Ross, R., & Browder, D. (1991). Functional Assessment: Dynamic and Domain Properties. In L. H. Meyer, C. A. Peck, & L. Brown (Eds.), Critical Issues in the lives of People with Severe Disabilities. Baltimore: Paul Brookes Publishing Co.

Menchetti, B. M., & Rusch, F. R. (1988). Vocational evaluation and eligibility for rehabilitation services. In P. Wehman & M.S. Moon (Eds.), Vocational Rehabilitation and Supported Employment. Baltimore: Paul Brookes Publishing Co.

Menchetti, B. M., & Udvari-Solner, A. (1990). Supported Employment: New Challenges for Vocational Evaluation. Rehabilitation Education, 4, 301-317.

Karen L. Shanahan
Lake County Board of MR/DD
8889 Mentor Avenue
Mentor, Oh 44060

A Comparison of Counselors' and Clients' with Traumatic Brain Injury Perceptions of Client Vocational Strengths and Limitations

Kathleen Lillo Sowell

Abstract

Of the 500,000 to 700,000 individuals who annually sustain head injuries, 70,000 to 90,000 will retain some degree of disability. Physical deficits often result in difficulty in ambulation and self-care activities. Cognitive deficits are generally considered to be more significantly handicapping in the total rehabilitation and adjustment of individuals with TBI. Memory deficits and deficits in executive functions are most prevalent. Self-monitoring and abstract reasoning is very often problematic and contributes to poor insight. Individuals with TBI may lack sufficient awareness of their abilities and limitations. Rehabilitation counselors often report their clients with TBI have unrealistic vocational plans. To determine if, and in what specific areas significant differences exist between counselors' and clients' perceptions of vocational strengths and limitations, 20 clients in head-injury facilities and their rehabilitation counselors were asked to complete surveys rating the severity of handicap on 30 items. Rehabilitation counselors completed the Functional Assessment Inventory (FAI) and clients completed the Personal Capacities Questionnaire, (PCQ) an item-by-item translation used to identify discrepancies in rehabilitation clients' perceptions of their disabilities. Differences between counselors' and clients' ratings were examined on composite ratings as well as on six factor areas. A t-ratio was computed to determine significance. Significant differences ($p < .05.$) were found on the composite rating as well as ratings on Adaptive Behavior, Cognition and Vocational Qualifications. No significant differences were found on ratings on Motor Function, Communication and Physical Condition. Abilities which rely more on the interpretation of abstract information were perceived differently by counselors and clients. Implications for rehabilitation practitioners include the need to spend ample time providing appropriate assessment experiences and vocational counseling to assist clients with TBI in making realistic vocational choices.

INTRODUCTION AND REVIEW OF LITERATURE

Rehabilitation of individuals with traumatic brain injuries is often a complex, intensive and lengthy endeavor. Survivors usually require the services of individuals from a variety of medical and rehabilitation disciplines. When medical stability is established planning focuses on the restoration of functions to enable the most optimum return to community life. We most readily think of therapies which restore physical abilities, and due to the nature of the injury, cognitive abilities. Very often, rehabilitation planning and resources terminate when individuals can function in the home environment. Less attention is paid to restoration of vocational function. A lack of understanding of head injury and its sequelae by injured individuals, their families and the community often contributes to this premature termination of services. Survivors often play a major part by demonstrating resistance to vocational services. This may be due to the belief that these services are unnecessary and/or the belief that the more easily understandable physical therapies are forfeited when participating in more vocationally focused services. Many of these individuals do not access vocational rehabilitation early enough, only to later learn through frustration and failure, of the value of vocational guidance and individualized employment services.

Of the 500,000 to 700,000 individuals who annually sustain head injuries, 70,000 to 90,000 will retain some degree of disability. Two-thirds of these individuals are under age 35 (National Head Injury Foundation [NHIF], 1986). The manifestations of brain injury include a myriad of cognitive, emotional and physical deficits which significantly affect normal development and quality of life.

Physical Deficits

Among the most common residual physical deficits of brain injury is hemiparesis, or muscle weakness affecting one side of the body. Other deficits include spasticity (an involuntary increase in muscle tone), ataxia (uncoordinated movement often causing balance and ambulation problems), and apraxia (the inability to produce, upon command, movement which is capable of being produced spontaneously) (Griffith, 1983). These physical disabilities interfere with the independent performance of normal activities of daily living.

Cognitive Deficits

Cognitive deficits are generally considered to be more significantly handicapping in the total rehabilitation and adjustment of individuals with traumatic brain injury (Corthell and Tooman, 1985; Rosenthal and Bond, 1989). Two of the most prevalent groups of cognitive problems are memory deficits and deficits in executive function (Corthell and Tooman, 1985). These areas of difficulty can be attributed to damage to the frontal and temporal lobes of the brain. Damage to these parts of the brain is an anticipated consequence of most head injuries. This anticipated damage is related to the presence of the specific bony structures of the skull in these areas and the collision of the brain with these skeletal features.

Memory deficits are complex and are present, to some degree, in most individuals who sustain a disabling head injury. Long-term memory, or memory for previously learned information, is less affected than short-term memory (Corthell and Tooman, 1985). Short-term memory is dependent upon attention and information processing, often two areas which are impacted by brain injury.

Impairments in executive functions translate into difficulties with planning, organizing and carrying out tasks. The ability to initiate activities is affected. Self-monitoring is impaired and individuals are unaware of the appropriateness and impact of their behavior. The ability to modify one's behavior to meet the situational circumstances is impaired due to the inability to easily shift mental sets (Corthell and Tooman, 1985).

Abstract reasoning is often affected in individuals who sustain brain injury (Naugle, 1988). They have difficulty comprehending the more subtle nuances of social situations. Difficulty in conceptualization and problem solving are often apparent. These individuals are often unable to generalize skills learned in one situation to other situations.

Deficits in abstract reasoning and self monitoring lead to a lack of insight, a problem often observed with individuals with traumatic brain injury. A lack of awareness of the effects of brain injury is common among survivors of traumatic brain injury (Rosenthal, 1983). These problems can lead to the development of an unrealistic picture of one's abilities and capabilities.

Adjustment

Much attention to the process of adjustment to disability has been given in the literature (Frank, van Valin and Elliot, 1987; Trieschmann, 1989). Implicit in these models and findings is the need for awareness and some degree of acceptance of the specific limitations imposed by the disability. If an awareness of strengths and limitations is a prerequisite for adjustment to disability then this process would appear to be more difficult for individuals with brain injuries. The awareness of deficits and comprehension of their implications for these individuals is affected by both psychological/coping factors and organic factors unique to this group (Deaton, 1986). Damage to the temporal lobes affects memory making it difficult for individuals to retain and subsequently assimilate new information regarding their status. Frontal-lobe damage interferes with individuals' abilities to analyze, evaluate and plan for compensation for deficits.

A Comparison of Counselors' and Clients' with Traumatic Brain Injury Perceptions of Client Vocational Strengths and Limitations

Kathleen Lillo Sowell

Abstract

Of the 500,000 to 700,000 individuals who annually sustain head injuries, 70,000 to 90,000 will retain some degree of disability. Physical deficits often result in difficulty in ambulation and self-care activities. Cognitive deficits are generally considered to be more significantly handicapping in the total rehabilitation and adjustment of individuals with TBI. Memory deficits and deficits in executive functions are most prevalent. Self-monitoring and abstract reasoning is very often problematic and contributes to poor insight. Individuals with TBI may lack sufficient awareness of their abilities and limitations. Rehabilitation counselors often report their clients with TBI have unrealistic vocational plans. To determine if, and in what specific areas significant differences exist between counselors' and clients' perceptions of vocational strengths and limitations, 20 clients in head-injury facilities and their rehabilitation counselors were asked to complete surveys rating the severity of handicap on 30 items. Rehabilitation counselors completed the Functional Assessment Inventory (FAI) and clients completed the Personal Capacities Questionnaire, (PCQ) an item-by-item translation used to identify discrepancies in rehabilitation clients' perceptions of their disabilities. Differences between counselors' and clients' ratings were examined on composite ratings as well as on six factor areas. A t-ratio was computed to determine significance. Significant differences ($p < .05$.) were found on the composite rating as well as ratings on Adaptive Behavior, Cognition and Vocational Qualifications. No significant differences were found on ratings on Motor Function, Communication and Physical Condition. Abilities which rely more on the interpretation of abstract information were perceived differently by counselors and clients. Implications for rehabilitation practitioners include the need to spend ample time providing appropriate assessment experiences and vocational counseling to assist clients with TBI in making realistic vocational choices.

INTRODUCTION AND REVIEW OF LITERATURE

Rehabilitation of individuals with traumatic brain injuries is often a complex, intensive and lengthy endeavor. Survivors usually require the services of individuals from a variety of medical and rehabilitation disciplines. When medical stability is established planning focuses on the restoration of functions to enable the most optimum return to community life. We most readily think of therapies which restore physical abilities, and due to the nature of the injury, cognitive abilities. Very often, rehabilitation planning and resources terminate when individuals can function in the home environment. Less attention is paid to restoration of vocational function. A lack of understanding of head injury and its sequelae by injured individuals, their families and the community often contributes to this premature termination of services. Survivors often play a major part by demonstrating resistance to vocational services. This may be due to the belief that these services are unnecessary and/or the belief that the more easily understandable physical therapies are forfeited when participating in more vocationally focused services. Many of these individuals do not access vocational rehabilitation early enough, only to later learn through frustration and failure, of the value of vocational guidance and individualized employment services.

Of the 500,000 to 700,000 individuals who annually sustain head injuries, 70,000 to 90,000 will retain some degree of disability. Two-thirds of these individuals are under age 35 (National Head Injury Foundation [NHIF], 1986). The manifestations of brain injury include a myriad of cognitive, emotional and physical deficits which significantly affect normal development and quality of life.

Physical Deficits

Among the most common residual physical deficits of brain injury is hemiparesis, or muscle weakness affecting one side of the body. Other deficits include spasticity (an involuntary increase in muscle tone), ataxia (uncoordinated movement often causing balance and ambulation problems), and apraxia (the inability to produce, upon command, movement which is capable of being produced spontaneously) (Griffith, 1983). These physical disabilities interfere with the independent performance of normal activities of daily living.

Cognitive Deficits

Cognitive deficits are generally considered to be more significantly handicapping in the total rehabilitation and adjustment of individuals with traumatic brain injury (Corthell and Tooman, 1985; Rosenthal and Bond, 1989). Two of the most prevalent groups of cognitive problems are memory deficits and deficits in executive function (Corthell and Tooman, 1985). These areas of difficulty can be attributed to damage to the frontal and temporal lobes of the brain. Damage to these parts of the brain is an anticipated consequence of most head injuries. This anticipated damage is related to the presence of the specific bony structures of the skull in these areas and the collision of the brain with these skeletal features.

Memory deficits are complex and are present, to some degree, in most individuals who sustain a disabling head injury. Long-term memory, or memory for previously learned information, is less affected than short-term memory (Corthell and Tooman, 1985). Short-term memory is dependent upon attention and information processing, often two areas which are impacted by brain injury.

Impairments in executive functions translate into difficulties with planning, organizing and carrying out tasks. The ability to initiate activities is affected. Self-monitoring is impaired and individuals are unaware of the appropriateness and impact of their behavior. The ability to modify one's behavior to meet the situational circumstances is impaired due to the inability to easily shift mental sets (Corthell and Tooman, 1985).

Abstract reasoning is often affected in individuals who sustain brain injury (Naugle, 1988). They have difficulty comprehending the more subtle nuances of social situations. Difficulty in conceptualization and problem solving are often apparent. These individuals are often unable to generalize skills learned in one situation to other situations.

Deficits in abstract reasoning and self monitoring lead to a lack of insight, a problem often observed with individuals with traumatic brain injury. A lack of awareness of the effects of brain injury is common among survivors of traumatic brain injury (Rosenthal, 1983). These problems can lead to the development of an unrealistic picture of one's abilities and capabilities.

Adjustment

Much attention to the process of adjustment to disability has been given in the literature (Frank, van Valin and Elliot, 1987; Trieschmann, 1989). Implicit in these models and findings is the need for awareness and some degree of acceptance of the specific limitations imposed by the disability. If an awareness of strengths and limitations is a prerequisite for adjustment to disability then this process would appear to be more difficult for individuals with brain injuries. The awareness of deficits and comprehension of their implications for these individuals is affected by both psychological/coping factors and organic factors unique to this group (Deaton, 1986). Damage to the temporal lobes affects memory making it difficult for individuals to retain and subsequently assimilate new information regarding their status. Frontal-lobe damage interferes with individuals' abilities to analyze, evaluate and plan for compensation for deficits.

Denial is viewed as a typical part of the rehabilitation process. If the concept of denial is considered as the discrepancy between reality and the injured individual's perception of what is real and possible, it would appear to be a very subjective judgement. Deaton (1986) suggests denial may be advantageous in the early stage of recovery serving to maintain motivation. In the later stages of recovery, the continued expectation a full recovery will be made in someone with severe impairments is unrealistic. Some consequences of denial in the later stages include refusal to participate in rehabilitation programs and attempts to take on responsibilities (e.g. home management, employment) for which persons are underprepared.

Vocational Rehabilitation

A number of studies of vocational outcome following traumatic brain injury have been completed. Among the 46 studies cited by Kay, Ezrachi and Cavallo (1984) are two conducted by Rimel, Giordani, Barth, Boll and Jane which studied vocational outcome of minor and moderately head injured persons (1981 and 1982). At three months post-injury, 34% of those with minor head injury who were previously employed, were unemployed. For those who sustained moderate injuries and were employed at the time of injury, 69% were unemployed at three months. In their study of head-injury survivors with varying severity of injury at one-year post injury, Fraser, Dikman, McLean, Miller and Temkin (1988) found that of the 73% of individuals who were employed, 40% reported job-related difficulties. Clearly this is a group who is in need of the full range of vocational rehabilitation services.

Vocational rehabilitation services include aptitude and interest assessment, personal adjustment and vocational counseling, specific therapies to reduce the vocational handicap, work adjustment and skill training, job development and placement, and employment maintenance services. For individuals with traumatic brain injury, the vocational rehabilitation process can vary from other rehabilitation populations due to their unique combination of cognitive, behavioral, physical and environmental assets and liabilities . (McMahon and Fraser, 1988) The amount and intensity of required services is often greater.

The Counselor-Client Relationship

The cornerstone of the vocational rehabilitation process is the counselor-client relationship. Fraser and McMahon (1988) purport that a common problem in vocational planning with clients with head injuries is their propensity to overestimate their vocational potential and underestimate the skills and behaviors required to achieve vocational goals. Rehabilitation counselors can come to be viewed as pessimistic or antagonistic as they attempt to address limitations not readily apparent to clients (Naugle, 1988). Veach and Taylor (1989) indicate readiness for vocational planning is dependent upon the client's capacity for awareness of their strengths and limitations and acceptance of their post-injury identity. Any discrepancy between counselors' perceptions of clients vocational strengths and limitations and their clients' perceptions needs to be identified at the outset and addressed through counseling and the provision of appropriate services and experiences. Vocational rehabilitation practitioners often report their clients with brain injuries have unrealistic vocational plans and employment expectations. It is generally believed their expectations are related to cognitive deficits which do not enable them to accurately interpret, analyze and assimilate information regarding their abilities and the environment. In some individuals, denial, as an emotional defense, impedes this process. The purpose of this research is to compare the extent of the differences, if any, of counselor and client assessment of client vocational capacities.

METHOD

Subjects

Twenty clients in head-injury rehabilitation programs were chosen for the purpose of this study. All clients were individuals who had sustained a traumatic, closed head injury and met one of the following criteria:

1. The individual will have been referred for vocational evaluation and/or vocational rehabilitation services.
2. The individual will be participating in a rehabilitation program consisting of a vocational component and/or will have a program goal of return to employment.

The clients were chosen based on consecutive referrals or consecutive program admissions.

Instruments

The Functional Assessment system (Crewe and Athlestan, 1984) specifically, the Functional Assessment Inventory (FAI) and the Personal Capacities Questionnaire (PCQ) is one tool that can be used to identify discrepancies in the counselor's and the client's perceptions of client vocationally relevant strengths and limitations. The FAI is completed by the counselor during the evaluation process as the counselor gathers medical and relevant information for use in determining vocational potential and in rehabilitation planning. The PCQ is a later addition and is intended for use by rehabilitation clients. The PCQ takes the 40 items of the FAI and translates them into personal terms allowing for client self-assessment. The authors suggest the PCQ be used as a springboard for discussion of client and counselor perceptions of strengths and limitations and to identify any discrepancies.

Procedure

Three rehabilitation counselors were recruited and asked to evaluate consecutively referred clients using the FAI. They were instructed to ask the subjects to evaluate themselves using the PCQ and were requested to provide only as much assistance, if any, required by the clients to complete the PCQ. Total ratings on the FAI completed by the counselor, were compared with ratings of clients on the PCQ. The first 30 items on both instruments were used in this study. A total score of items 1-30 was obtained by summing the ratings on each of those items. Further comparisons were made between counselors' and clients' ratings on six factors, as identified through factor analyses completed as part of the field testing relevant to the development of the FAI. For the purpose of this study two of the identified factors were combined and the following factors, which address the primary dimensions of functional limitations and their related test items were analyzed:

Adaptive Behavior Cognition
Vocational Qualifications
Motor Function
Communication
Physical Condition

Numerical ratings of items within each factor were summed. A t-ratio was computed to determine significance for the composite scores and for each factor score. The t-ratio was used to test the difference between the means of the two independent samples. An alpha level of .05 was used to determine significance. It was hypothesized there would be significant differences between the ratings of counselors and clients across all factors with the counselors assigning higher ratings indicating a greater perceived degree of handicap.

RESULTS

Twenty clients participated in the study by completing the PCQ. The FAI was completed by a counselor for each client. Table I provides the mean ratings and t-ratios for composite and factor areas:

Table I

	FAI	PCQ	t
Composite	30.70	20.45	3.02*
Adaptive Behavior	7.55	4.30	3.35*
Cognition	5.45	3.10	2.90*
Vocational Qualifics.	7.45	4.70	2.64*
Motor Function	2.80	2.30	.72
Communication	1.20	1.45	-.53
Physical Condition	4.85	5.60	-.56

*$p < .05$. (one-tailed)

Differences in clients' and counselors' ratings were significant on adaptive behavior, cognition, vocational qualifications and on the composite of instrument items, with counselors assigning higher ratings. Differences between counselors' and clients' ratings on motor function, communication and physical condition were not significant.

DISCUSSION

The results of this study supports rehabilitation counselors' anecdotal reports of discrepancies in their assessment of the vocational capacity of their clients with head injury and clients' self assessment. Counselors viewed their clients as having a greater degree of vocational limitation than their clients as evidenced by an analysis of the overall ratings on both instruments. These results suggest one rationale which supports McMahon's and Fraser's (1988) assertion that overestimating career goals is a normal consequence of head injury; clients who overestimate their abilities might choose vocational goals which are unrealistic.

In reviewing statistical differences in ratings on each factor area, Adaptive Behavior was the area in which the greatest difference was found. The items comprising this factor are related to work habits, social support system, perception of capabilities and limitations, interaction with employers and co-workers, judgement, congruence of behavior with rehabilitation goals, and initiative and problem solving. These capacities are probably the most subjective and to a large degree, are dependent on the assimilation of information received from the environment. This feedback can be relatively subtle and often inaccurately perceived by individuals with deficits related to frontal-lobe injury.

Cognition was the factor area in which the next greatest difference was observed. There were four items comprising this factor: learning ability, ability to read and write, memory and spatial and form perception. One might expect due to the abstract nature of these abilities, awareness by individuals with deficits in higher cortical functions would be limited. These results may explain clients' belief that they can easily plan to attend, or resume, college or other formal training programs.

Vocational Qualifications was the final factor area in which a significant difference existed. An accurate understanding of job skills, required training and labor market demands requires cognitive sophistication. A lack of accurate perception of these factors may also be due to a pre-morbid lack of work experience. Traumatic brain injury tends to occur more frequently in young adults who may have had relatively little exposure to the labor market.

Differences between counselors' and clients' ratings on Motor Function, Communication and Physical Condition factors were statistically similar and were not significant. Although clients perceived themselves as less handicapped compared to the perceptions of the counselors, ratings on these factors were most congruent to those of the counselors'. One would postulate this is due primarily to the more visible and relatively concrete nature of the abilities comprising these factors. Individuals with deficits in these areas are almost constantly confronted with their altered abilities as they perform normal activities of daily living. Physical restoration is often the focus of early rehabilitation and much attention is devoted to therapy to re-gain motor function and training in the use of adaptive equipment.

The results of this study suggest, for the group studied, cognitive deficits are responsible for the lack of recognition and/or understanding of abilities. When assessing physical and more readily apparent factors, the clients perceptions were not significantly different from those of the counselors. Regarding factors which are more subtle and require a greater degree of cognitive analysis and interpretation, significant differences existed between the clients' and the counselors' assessments. Assessment of personality and affective sequelae may be a useful adjunct to intellectual batteries in helping to determine the degree to which decreased awareness of abilities and limitations are due to psychological defense.

Discrepancies in counselors' and clients' assessment of vocational abilities and goals must be identified very early in the vocational rehabilitation process. The vocational planning process must be expanded to accommodate the unique learning needs of individuals with traumatic brain injuries.

Rehabilitation of cognitive deficits and instruction in compensatory strategies is probably the most important medical therapy at the point in rehabilitation where intensive vocational services are initiated Personal and disability adjustment counseling is a vital service as the individual initiates the vocational planning process. It is during this time, as the individual confronts his or her limitations and vocational expectations, he or she will likely require supportive counseling and assistance in re-integrating new abilities into a reconstructed identity. Cognitive deficits prolong the disability adjustment process. Goldberg (1992) makes references to earlier research which indicates individuals with disabilities who have a realistic picture of their limitations, appear to have the best chance of obtaining and maintaining employment.

The sample of clients used in this study was relatively small. It would be valuable to determine if these findings were substantiated for larger samples. Additional correlative studies would be of diagnostic value to determine the specific contributors to discrepancies between counselors' and clients' perceptions. Individuals with head injuries referred for vocational rehabilitation run the gamut regarding date of injury, length of time in coma, pre-injury occupational and social status and post-injury physical, cognitive and emotional status, thus, these variables were purposely not controlled for in this study. It would be of value to determine which, if any, of these variables, are related to client perception of vocational capacities. Additional studies involving family and community perceptions of client capacities would be valuable to determine their affect on client adjustment and vocational awareness.

References

Corthell, D.W. & Tooman, M. (1985). Rehabilitation of TBI (traumatic brain injury). Twelfth Institute on Rehabilitation Issues. Menomonie, WI: Stout Vocational Rehabilitation Institute.

Crewe, N. M. & Athelstan, G. T. (1984). Functional Assessment Inventory manual. Menomonie, Wiscosin: Materials Development Center.

Deaton, A. V. (1986). Denial in the aftermath of traumatic head injury: It's manifestations, measurement, and treatment. Rehabilitation Psychology, 31(4). 231-236.

Frank, R., Van Valin, P.H., & Elliot, T. R. (1987). Adjustment to spinal cord injury: A review of empirical and nonempirical studies. Journal of Rehabilitation, 53, 43-48.

Fraser. R., Dikmen, S., McLean, A., Miller, B., & Temkin, N. (1988). Employability of head injury survivors: First year post injury. Rehabilitation Counseling Bulletin, 31(4), 276-288.

Goldberg, Richard T. (1992). Toward a model of vocational development of people with disabilities. Rehabilitation Counseling Bulletin, 35, 161-173.

Griffith, E. R. (1983). Types of disability. In M. Rosenthal, E. Griffith, M. Bond & J. Miller (Eds.) Rehabilitation of the Head Injured Adult (pp. 23-32). Philadelphia: F.A. Davis.

Kay, T., Ezrachi, O., & Cavallo, M. (1984). Annotated Bibliography of Research on Vocational Outcome Following Head Trauma. Research and Training Center on Head Trauma and Stroke. New York: New York University Medical Center.

McMahon, B. T. & Fraser, R. T. (1988). Vocational rehabilitation. In P. Deutsch and K. Fralish (Eds.), Innovations in Head Injury Rehabilitation (pp.12-1-12-12).

National Head Injury Foundation. (1986)

Naugle, R. I. (1988). Denial in rehabilitation: It's genesis, consequences, and clinical management. Rehabilitation Counseling Bulletin, 31, 218-229.

Rimel, R.W., Giordani, B., Barth, J. T., Boll, T. J. & Jane, J. A. (1981). Disability caused by minor head injury. Neurosurgery, 9(3), 221-228.

Rimel, R.W., Giordani, B., Barth, J. T., Boll, T. J. & Jane, J. A. (1982). Moderate head injury: Completing the clinical spectrum of brain trauma. Neurosurgery, 11(3), 344-351.

Rosenthal, M. (1983). Behavioral sequelae. In M. Rosenthal, E. R. Griffith, M. Bond & J. Miller (Eds.), Rehabilitation of the Head Injured Adult (pp. 197-208). Philadelphia: F.A. Davis.

Trieschmann, R. B. (1989). Adjustment to spinal cord injury. In T. Heller, B. Flohr & M. Zegans (Eds.), Psychosocial Interventions with Physically Disabled Persons (pp. 117-134). New Jersey: Rutgers.

Veach, R. & Taylor, M. (1989). Vocational placement of minor head injured survivors. Cognitive Rehabilitation, 7(4), 14-16.

Kathleen Lillo Sowell
190 Township Drive
Hendersonville, TN 37075

RESULTS OF THE 1992 MULTI-CULTURAL TASK FORCE SURVEY

Wendy Nussbaum, CVE
Norma Colyer, CVE, CRC
Alan Nelson, CVE, MFCC

Abstract

This paper summarizes the results of VEWAA's 1992 Multi-Cultural Survey, which concluded there was a lack of racial and ethnic representation, meaningful research and training, and culturally adaptable and culturally-sensitive testing resources, in the field of vocational evaluation. Recommendations have been made to promote cultural pluralism through increased writing, research, and training related to multi-cultural issues; affirmative action at organizational and academic levels; and establishment of a permanent committee within the National Rehabilitation Association to represent the vocational needs and aspirations of persons from varied racial and ethnic backgrounds.

Introduction

In 1992, the Multi-Cultural Task Force was established under the Ethics Committee of National VEWAA. This task force had two primary goals: investigating how multi-culturalism influences the field of vocational evaluation and recommending methods for the profession to become more sensitive to cultural diversity.

In order to determine the issues and needs of the VEWAA membership, a national survey was conducted which provided the data in the following areas: personal and professional background of membership, ethnic background of clients/students, currently used instruments with multi-cultural populations, and future education and training needs. A request was made for respondent input regarding assessment instruments that they would like to see developed.

Method

The purpose of the survey was to develop data which would assist us in identifying goals and objectives consistent with the membership's needs. As a result, the survey became two-tiered, generating practical information about members' personal and professional backgrounds and, also, more specific data concerning general membership characteristics in VEWAA.

Sixteen hundred and twenty (1620) surveys were mailed to the membership. Four hundred and fifty (450) responses were received. The data was analyzed using the Statistical Package for Social Sciences (SPSS) with the technical support from Fairfax County (Virginia) Public Schools.

The format of the survey was flexible in that some of the questions were open-ended, allowing respondents to elaborate.

Survey Results

Following is a summary of the data concerning general membership characteristics in VEWAA.

Members Surveyed
1620
Number of Responses
450

Gender Breakdown

female 64%
male 36%

Mean Age

39.52

Geographic Distribution

There was representation from all states except two (Connecticut and Vermont). Respomses were also received from Canada (< 1%). The largest representation was from California (8%), Florida (6%), Illinois (6.25%), North Carolina (4.5%), Michigan (3.5%). It is unclear as to why no surveys were recieved from members from the district of Columbia.

Educational Level

Masters degree in rehabilitation specialty (i.e., counseling)--(36%)
Masters degree in Social Sciences (e.g., psychology, sociology)--(13%)

Masters degree in Education (7%)
Masters degree with specialization in Vocational Evaluation (5%)
Masters degree in Vocational Evaluation (5%)

Doctorate in other than rehabilitation specialization (5%)
Doctorate in rehabilitation discipline (4%)

Bachelors degree in rehabilitation (3%)
Bachelors degree in other than rehabilitation specialization such as Occupational Therapy or Physical Therapy (< 3%)
Associate of Arts Degree (< 1%)

On surveys where the respondent did not specify an area of specialization, but noted the general degree, it was assumed that it was in social sciences. Among the respondents, the two most common areas of specialization were psychology and rehabilitation counseling; however, a variety of disciplines were represented. Out of the respondents with degrees in Vocational Evaluation, less than one percent were Doctorate level.

Job Titles

Rehabilitation Program Directors/Managers (23%)
Rehabilitation Counselors (18%)
Vocational Evaluators (8%)
College Professors (5%) - mostly university as opposed to two-year programs
Evaluation Program Director/Manager (5%)
School Based Evaluators (3.75%)
Work Adjustment Specialists (2%)

Certification Status

Certified as a Vocational Evaluator

Yes: 44%
No: 56%
Certified CRC: 41%
Both a CVE & CRC:8%

Work Settings

State Programs: 17%
Private non-profit settings: 16%
Private rehabilitation settings: 14%
Sheltered workshops: 10%
Hospitals: 8.4%
Universities: 6.9%
School-based: 3.75%

In the second section of the survey, a variety of multi-cultural issues were addressed. Table 1 summarizes this data concerning the ethnic background of service providers and consumers of vocational evaluation services.

Table 1
Multi-Cultural Characteristics of VEWAA Member Respondents

Ethnic Background of Respondents

White/Caucasian	(92%)
Hispanic	(4%)
African American	(<1%)
Native American	(<1%)
Asian	(<1%)

Client Populations Served

Caseload Background	Percentage	Standard Deviation
Arab	4.5%	10.9
Aferican-Americans	22.3%	20.3
Hispanic	16.0%	19.5
Europeans	49.0%	33.7
Native Americans	20.8%	30.9
Asians	5.7%	10.6
Indian	5.7%	11.2

The above statistics appear to represent approximations, orbest estimates. It is surmised that many service providers might not carefully track and maintain statistical information on their caseloadsand made educated guesses in response to this section. Many respondents left this section blank, indicating that they were notcurrently working with a caseload in their position (e.g., college professor, manager). On the other hand, some respondents were very specific with respect to the cultural background of their caseload.

Level of Literacy in Languages other than English of Respondents

In reviewing the surveys, the following information was generated regarding other languages respondents were fluent in and their level of communication in each:

Table 2

Language	Speak Fluently	Basic Communication
Spanish	5.75%	12%
American Sign	3%	6%
French	.75%	4.5%
German	.25%	2%
Italian	.75%	.5%
Hebrew	.25%	.5%
Chinese	.5%	0
Farsi	0	.5%
Portuguese	.25%	0
Greek	.25%	0
Lithuanian	.25%	0
Phillippine	.25%	0

It is noted that respondents that were fluent in Spanish were generally from Florida, California and Puerto Rico. Two of the respondents from Puerto Rico stated that they had only basic communication skills in English.

Countries of Immigration

A review of the surveys indicated that clients/students had immigrated from 85 countries in the world such as: Afghanistan, Australia, Ecuador, Fiji Islands, China, Croatia, Cape Verde, Lithuania, Mexico, Nigeria, Pakistan, El Salvador, Somalia, Thailand, Venezuela, Yemen, Peru, and Yugoslavia, to name only a few.

The following table (Table 3) lists specific countries from which clients/students have emigrated and percent of respondents serving these populations. For example, out of 400 respondents, 17.55% indicated that they provide services to individuals from Mexico., This table includes the top fourteen countries.

Table 3

Country	Precentage
Mexico	17.55%
Vietnam	8.0%
Puerto Rico	3.93%
China, Philippines & Cuba	3.51% (each)
Russia	3.08%
El Salvador, Guatemala & Korea	2.80% (each)
England, Germany, India & Laos	2.52% (each)

In Table 4, countries have been grouped into widely accepted geographic regions.

Table 4

Region	Percentage
Mexico	17.55%
Western Europe	14.42%
East Asia (Burma, China, Philippines, Japan, Korea, Taiwan, Thailand, etc.)	12.71%
Southeast Asia (Vietnam, Cambodia and Laos)	10.52%
Caribbean	10.52%
Central America	7.14%
Eastern Europe and former Soviet Union	5.94%
Middle East (Iran, Iraq, Turkey, Saudi Arabia, etc.)	5.18%
South America (Colombia, Venezuela, Brazil, Peru, etc.)	4.76%
South Asia (India and Pakistan)	3.36%
Sub Sahara Africa (Ethiopia, Sierra Leone, Somalia, Rhodesia, Nigeria, etc.)	1.96%
Canada	1.40%
North Africa (Egypt, Morocco, etc.)	.84%
Australia, New Zealand & Oceania	.84%

In California, most respondents indicated that their caseloads included immigrants from Mexico and Vietnam, while respondents from Florida indicated that their caseloads included individuals from the Caribbean and South America. Respondents from Texas indicated that most of their immigrant clients were from Mexico, Vietnam and Central America.

Less than one percent of the respondents indicated that they did not have active caseloads, and others stated that the countries of emigration were too numerous to count.

Table 5 contains the interest of respondents to the survey in having improved training and test materials. Respondents were requested to indicate whether they had a low or high level of interest in six categories of training and resource materials. The majority (68-83 percent) had a high interest in every category except "effective advocacy during case management" where only 42 percent indicated a high level of interest.

Table 5

Respondents Training Priorities

	Level of Intrest	
	Low	High
Effective Advocacy During Case Management	58%	42%
Sensitivity Training in Cultural Differences	32%	68%
World of Work and Multi-Cultural Populations	23%	77%
Culture and Disability	23%	77%

Resource Information	29%	71%
Multi-Cultural Evaluation and Assessment	17%	83%

The area of culture and disability refers to how different cultures view disability and how this impacts the rehabilitation process. The world of work would cover interests, work values, work habits and their impact in an assessment or employment situation. For example, how does the person view the concept of time? Are personal goals and aspirations subordinate to the greater needs of the family?

In addition to indicating their interest in specific items listed "what types of assessment instruments they would like to see developed", the survey requested that the respondents list vocational evaluation procedures that he/she thought were needed for improving vocational evaluation for multi-cultural individuals. The following sample of actual responses indicated a broad range of needs:

> "culturally-sensitive version of commercial systems including Sage,
> Valpar, Mesa and Apticom"
> "culture-free mechanical aptitude tests"
> "audio-visual materials"
> "brochures on values and customs''
> "taped instructions for work samples"
> "culture-fair GATB"
> "life skills/functional skill instruments"
> "good transferability skills inventory for Spanish speakers"
> "urban verses rural norms"
> "assess subsistense lifestyle (for example, in
> Alaska, fishing, skin sewing, carving and gathering skills)."
> "reading test that deterimnes a client's proficiency for ESL programs"
> "tests sensitive to socio-economic class"
> "IQ tests using international symbols"
> "tests developed by someone other than white European males"
> "Puerto Rican norms"

The above survey item was intended to elicit responses specific to the development of assessment tools to be used with multicultural populations. However, many of the respondents addressed the need for development of assessment tools for all populations.

Primarily, practitioners wanted translations in other languages and appropriate normative data. One innovative idea suggested by respondents was the use of situational assessments.

A few respondents stated that they use the same instruments with all evaluees and expressed the view that it was not necessary to modify testing procedures when testing multi-cultural populations.

Conclusions

Based on the survey results, the following conclusions can be made regarding the respondents:

- the majority of respondents were white females with a Masters degree
- in a rehabilitation specialty
- the majority of respondents were either rehabilitation program directors/managers or rehabilitation counselors working in a variety of settings including state programs, private non-profit, and private for-profit rehabilitation settings
- fewer respondents were certified vocational evaluators and a majority of the respondents were certified rehabilitation counselors
- work adjustment specialists were under-represented in this survey
- Spanish and Sign Language were the most frequently mentioned modes of communication other than English--level of fluency varied
- clients/students emigrated from eighty-five different countries
- the largest percent of immigrants represented in caseloads was from Mexico and Vietnam
- most respondents indicated a need for training in the following areas: sensitivity training in cultural differences, world of work and multi-cultural populations, multi-culturalevaluationand assessment
- most respondents indicated a need for resource information--relatively few indicated a need for advocacy training
- respondents requested translations of tests in other languages and appropriate normative data--a few indicated that no changes were necessary in the testing process for multi-cultural populations

Statistical information was based on 400 surveys. Fifty surveys were received after the cut-off date. As of this writing, surveys are still being received, placing the total number at approximately 500. This overwhelming response seems to indicate strong interest regarding multi-cultural concerns among the VEWM membership. The results have greatly assisted the Multi-Cultural Task Force in clarifying goals and objectives consistent with membership needs.

Goals and Objectives of Task Force

- *Develop a national VEWAA Survey.*

This survey was the first step in ascertaining the issues and concerns of the membership related to multi-culturalism.

- *Increase writing, research and trainning related to multi-cultural issues.*

Writing, research and training that explores multi-cultural topics in vocational evaluation should be promoted and enhanced. For example, out of 250 papers presented at the VEWM National Forums, approximately eight focused on multi-cultural issues, three of which were presented in 1993. Also, there is a need for innovative new test instruments related to acculturation scales, language and math assessment tools, creative pictorial interest inventories, appropriate normative data, and multi-media vocational tasks translated to various languages. Additionally, a greater appreciation of practical job simulation and situational assessment for individuals with little experience in the current labor market is needed.

- *Develop a resource Guide for Practitioners.*

There needs to be a resource guide of multi-cultural testing materials made available to professionals.

- *Establish a network of professionals to provide advice to membership regarding multi-cultural issues.*

For this purpose, it will be necessary to have representatives in different geographic locations. These representatives could provide local information related to training, resources, etc.

- *Contact other committees and/or organizations with similar goals/objectives to share ideas and concerns.*

- *Continue a more permanent entity within the VEWAA organization to address multi-cultural issues and to accomplish the goals as outlined above.*

It is recommended that VEWM take steps to establish a permanent committee on multi-culturalism and promote networking between groups in the field of rehabilitation which represent persons from varied cultural backgrounds. The more aware vocational evaluators are of multi-cultural issues, the better they will be prepared to serve the changing American work force as we approach the 21st century.

Alan Nelson
Career Evaluations
1330 Broadway #936
Oakland, CA 94612

NATIONAL FORUM

ANALYSIS OF A NATIONAL STUDY ON VOCATIONAL ASSESSMENT PROCEDURES WITH VOCATIONAL REHABILITATION CLIENTS

Becky J. Hayward

Stephen W. Thomas

Abstract

This article presents selected findings of a two-year RSA sponsored study conducted by the Research Triangle Institute. Although the study focused on vocational evaluation and IWRP practices of state vocational rehabilitation agencies, only those major results specific to vocational evaluation will be presented. Several recommendations concerning vocational evaluation practice will also be reviewed.

INTRODUCTION

This two-year study was funded by the Rehabilitation Services Administration, U.S. Department of Education, and conducted by the Research Triangle Institute under the direction of Dr. Becky Hayward. The final document (Hayward, et al, 1992) reports that the "broad purposes" of the study were:

> To identify vocational assessment and IWRP practices that are most effective at key points in the rehabilitation process in terms of facilitating successful client outcomes, given relative costs, including monetary costs, client burden, and other factors; and
>
> To develop recommendations to RSA concerning implementation of these "exemplary" or "model" practices throughout the VR system.

Study objectives specific to vocational evaluation were designed to:

> Examine current policies and practices in vocational evaluation and assessment within the state-federal VR system;
>
> Determine the uses of diagnostic and assessment information at key stages in the VR process, including eligibility determination, articulation of vocational goals and intermediate objectives, during services, and at placement;
>
> Identify effective assessment and IWRP practices in use in state VR agencies; and
>
> Develop recommendations for RSA's consideration in fostering the widespread use of effective practices in vocational assessment, vocational evaluation...throughout the state-federal system.

Although the full study also addressed the effectiveness of the IWRP process, this article will focus on the outcomes and recommendations of vocational evaluation and assessment as provided to vocational rehabilitation clients. The study was particularly important since many critics have argued that vocational evaluation was too expensive, was offered too frequently, and created an excessive client burden (i.e., was a hardship on the client).

METHODOLOGY

The study methodology involved the following steps:

1. Convene a Panel of Experts composed of state and federal policymakers and practitioners, evaluation experts, and client advocates;
2. Review the vocational evaluation and assessment literature
3. Visit state agencies to explore vocational evaluation service issues;
4. Develop a conceptual framework, study questions, and survey documents, and refine study design;
5. Survey state VR agencies universally;
6. Sample 15 randomly selected states (with probability proportional to size) and select for review 900 client case files closed in Fiscal Year 1989 in either status 26 (closed rehabilitated) or status 29 (closed, not rehabilitated);
7. Survey rehabilitation counselors, vocational evaluation specialists, and vocational evaluation providers in the sample, and conduct telephone interviews with clients; and
8. Review client case records.

Data from these various sources was collected and analyzed and the results reported in the final report (Hayward et al, 1992), along with recommendations for improved service delivery. Selected vocational evaluation findings will be highlighted throughout the remainder of this article, and divided into three sections that address administrative results, process findings, and study recommendations. The terms vocational evaluation and vocational assessment as identified and used in this study follow the same definitions provided in the VEWAA GLOSSARY.

ADMINISTRATIVE RESULTS

This section will review sources of evaluations, stages when evaluation is offered, cost and length of service, disabilities served, and evaluator hiring and training practices. Although tables and figures in the original study give results by 26 and 28 closure status, and severe and nonsevere disabilities, percent totals for 26 closures will only be presented since they tend to represent best practice findings.

Sources of VR Vocational Evaluations: Evaluations identified in the study have been provided primarily by three sources - 2.7% agency staff only, 41.1% vendor staff only, and 50.7% agency and vendor staff. Table 1 shows that private, nonprofit facilities provide the largest number of evaluations followed by VR agency rehabilitation facilities. Rehabilitation facilities continue to provide the largest percentage of evaluations to VR clientele. It is interesting to note that 50% of VR agencies employed vocational evaluation specialists, and approximately 61% of VR counselors used only one vendor for all vocational evaluations of their clients. In addition, 25% of the VR counselors in the study personally performed their own vocational evaluations.

TABLE 1
Percentage of VR Agencies Authorizing Types of Organizations to Provide Vocational Evaluation Services

Private, nonprofit facility	84.9%
VR agency rehabilitation facility	46.6%
Private, for-profit facility	26.0%
Public education institutions	24.7%
Independent professionals	15.1%
Public employment service	8.2%
All other types	8.2%

Only 47% of clients in the study received a vocational evaluation. This statistic does not support the argument that evaluations are overused, but tends to support the notion that they are prudently utilized by VR counselors.

VR Process Stages for Vocational Evaluation: Figure 1 clearly identifies the "applicant status" as the most frequent stage at which clients receive a vocational evaluation (66%). Fourth in line is the "extended evaluation" stage where long-term evaluations are most often administered.

Evaluation Costs: The average cost of purchased vocational evaluations was $335 for clients closed 26 and $260 for clients closed in status 28. Over half of the vocational evaluations cost less than $200, indicating that cost is not a factor in this phase of service delivery. In fact, less than 10% of VR case expenditures go to vocational evaluation.

Length of Evaluation Services: The length of evaluation services for VR clients closed in status 26 is given in Table 2.

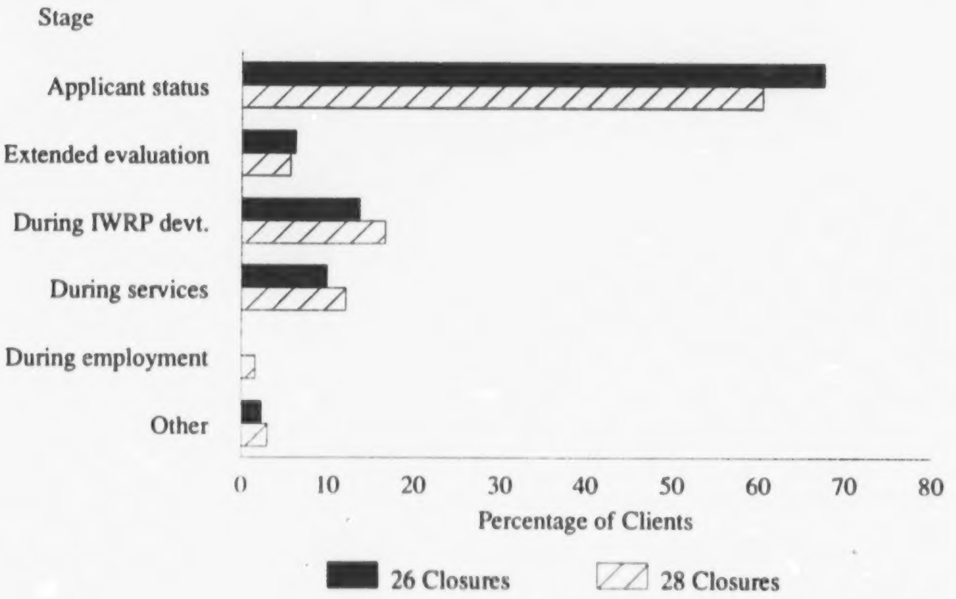
TABLE 2
Percentage of VR Clients Closed in Status 26 Who Received Various Models of Vocational Evaluation

No model or package was administered	41.9%
Less than one day of evaluation	11.3%
One day of evaluation	13.3%
Two to three days of evaluation	7.1%
Four to five days of evaluation	3.3%
More than five days, up to ten days	3.8%
More than ten days, up to one month	10.8%
More than one month	6.7%
Other	1.7%

This somewhat bimodal distribution places slightly more emphasis on the shorter evaluations but indicates that most evaluations (41%) base service length on the needs of the client and counselor.

Figure 1

Stages in the VR Process at Which Clients Receive Vocational Evaluation



Disabilities Served by Vocational Evaluation: Figure 2 reveals that disabilities of individuals most frequently referred for vocational evaluation services included orthopedic impairment, mental illness, and mental retardation. These findings are not surprising with the exception of the moderately high number of persons with substance abuse receiving services.

It is important to remember that the number of successful and unsuccessful closures reported in this study cannot be used solely to determine the validity of vocational evaluation. Since some evaluations do not identify immediate vocational goals or often recommend a variety of essential services prior to placement, job success is not always an appropriate measure of evaluation effectiveness. Validation with employment status would require a detailed analysis of the extent that evaluation report content and recommendations are used in the IWRP.

Hiring and Training Requirements of Vocational Evaluators: Since the limited number of graduate programs in vocational evaluation have created shortages in the availability of qualified job applicants, state agencies have experienced a number of difficulties in hiring Master's level vocational evaluators. Table 3 illustrates the various problems state agencies have in recruiting qualified candidates.

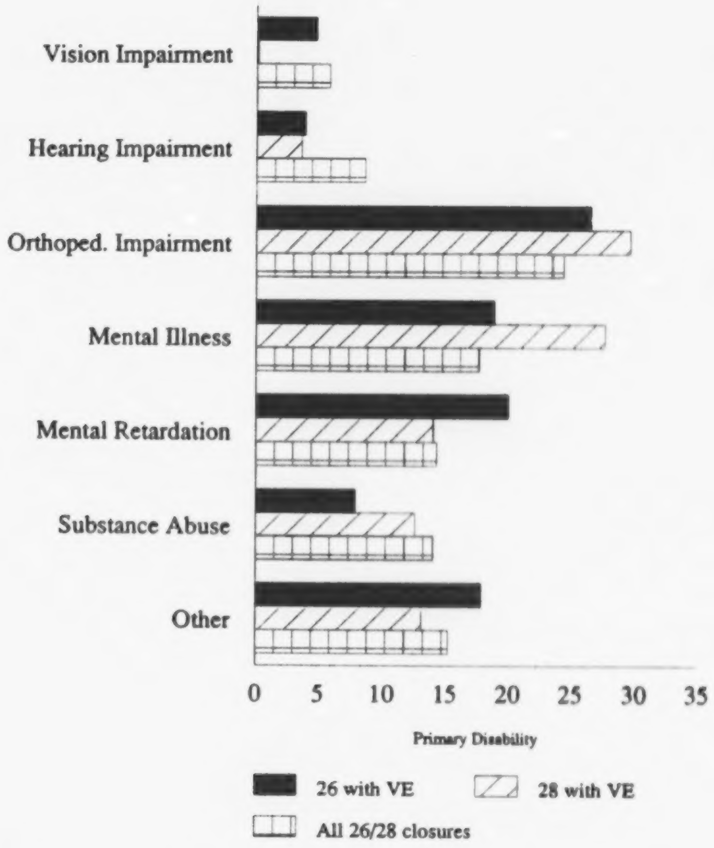
TABLE 3
Percentage of Agencies Reporting Major Factors That Limit Recruitment and Hiring of Trained Vocational Evaluators
(n=39 state VR agencies employing evaluators)

Other employment opportunities	56.4%
Salary scale relative to other sectors of rehabilitation	56.4%
Insufficient number of persons completing training	51.3%
Inadequate referrals from training programs	46.2%
State personnel policies/civil service requirements	41.0%
Job locations (e.g., rural areas)	38.5%
Lack of opportunities for advancement	38.5%
Inadequate recruitment policies/process	28.2%
Educational requirements	18.0%
Requirements about years of experience	10.3%
Political appointments or patronage	2.6%
Collective bargaining requirements	0.0%

Note: Multiple responses were possible.

Figure 2

Evaluated Clients' Disabilities



Unless a sufficient number of pre-service and inservice programs are made available to meet the identified needs, thses shortages will continue. Quality service delivery is dependent on appropriate and professionally-based training.

With regard to inservice training topics, Table 4 lists the types offered and the percent of VR agencies providing the specified training.

TABLE 4

Percentage of VR Agencies Providing Inservice Training on Specific Topics for Vocational Evaluation Specialists

New client populations	35.6%
Supported employment	32.8%
Administration of instruments	28.8%
Interpretation of results	26.0%
Vocational evaluation report development	24.7%
Staffing with counselors	23.3%
Vocational rehabilitation process	21.9%
Referral procedures	15.1%
Validity/reliability/bias	15.1%
Individualized Written Rehabilitation Program (IWRP)	13.7%

Other study data indicated that rehabilitation counselors received their highest percentage of agency training in supported employment (82.2%). Vocational evaluation was fourth on this list with 61.6% of the state agencies offering their counselors training in this area, and 43.8% in extended evaluation.

PROCESS FINDINGS

This section will highlight the various components and instruments used in the vocational evaluation process. Types of vocational evaluation recommendations and counselor reasons for using vocational evaluation will also be presented.

Percentage of Vocational Evaluations that Include Selected Components: Table 5 lists the selected components of a vocational evaluation service as identified in client files. The table contains the percent of vocational evaluations for clients who were closely successfully in status 26.

TABLE 5
Percentage of Vocational Evaluations that Include Selected Components

Specific tests and work samples	92.9%
Clinical interview	50.4%
Situational assessment	30.5%
Functional assessment	22.3%
Other	12.9%
On-the-Job evaluation	4.8%

Although only half of the evaluations included an interview, nearly all used tests or work samples. Collectively, slightly more than a third of the vocational evaluations used situational assessment or job site evaluation.

Most Frequently Administered Instruments: Case reviews indicated that vocational evaluations tended to rely more on standardized tests, with achievement being the most frequent area of testing. However, work samples were used more frequently with severely disabled individuals. Table 6 indicates the percent of use of instruments with clients closed in status 26.

TABLE 6
Most Frequently Administered Tests and Work Samples

Wide Range Achievement Test	53.8%
Wechsler Adult Intelligence Scale	27.3%
General Aptitude Test Battery	26.5%
VALPAR	22.7%
JEVS	12.7%

Note: The MMPI, Bender-Gestalt, and Revised Beta II were also used to a limited degree with clients who were nonsevere or in a 28 closure status.

It is important to note that VR counselors frequently requested specific tests by name. If evaluators would like to administer more work samples and vocationally-related tests then they should take time to orient counselors to the value of such instruments.

Vocational Evaluation Recommendations: Figure 3 illustrates the types of recommendations contained in vocational evaluation reports abstracted from the study. Although many of the instruments used in the evaluation process were more psychological in nature, they resulted in a significant degree of vocationally-based recommendations. The largest percentage of recommendations were in the "Occupational area" (i.e., general career clusters and job families). This was closely followed by recommendations for "Education/training", but with a lower 26 than 28 closure status. The areas of "Vocational goal" (i.e., specific job recommendation), and "Job placement" (i.e., general recommendation for employment with no stated goal) were also high on the list.

In general, two of the three employment-related recommendation categories resulted in higher percentages of 26 over 28 closure rates. Those categories resulting in higher 28 over 26 closure rates included Education/training, Personal counseling, More assessment, Supported employment, Physical restoration, and Mental restoration. As mentioned earlier, the degree of success or failure cannot be directly related to the vocational evaluation process or resulting report and is not an indication of validity.

VR Counselors' Selected Purposes for Using Vocational Evaluation:

To better direct evaluators in the development of this service, it was important to determine why counselors referred their clients to vocational evaluation. Table 7 provides a prioritized description of counselors' reasons based on clients closed in status 26.

TABLE 7
Percentage of Former VR Clients' Counselors Who Ranked as Important Selected Purposes of Vocational Evaluation*

To determine client's vocational abilities	72.3%
To help determine which services will be needed	45.6%
To help develop an appropriate IWRP	43.9%
To determine client's abilities and limitations	36.6%
To help make a determination of eligibility	34.4%
To give client a more realistic understanding of self as a worker	29.8%
To improve client's likelihood of employment	10.3%
Other	0.3%

*Respondents could select three responses.

The priority of the results suggest that counselors surveyed in the study tended to place more emphasis on professional use of the information for client assessment and planning, rather than on client involvement as a participant in assessment and planning. With greater emphasis being placed on empowerment of participants in their own vocational rehabilitation process, client involvement will need to receive more attention.

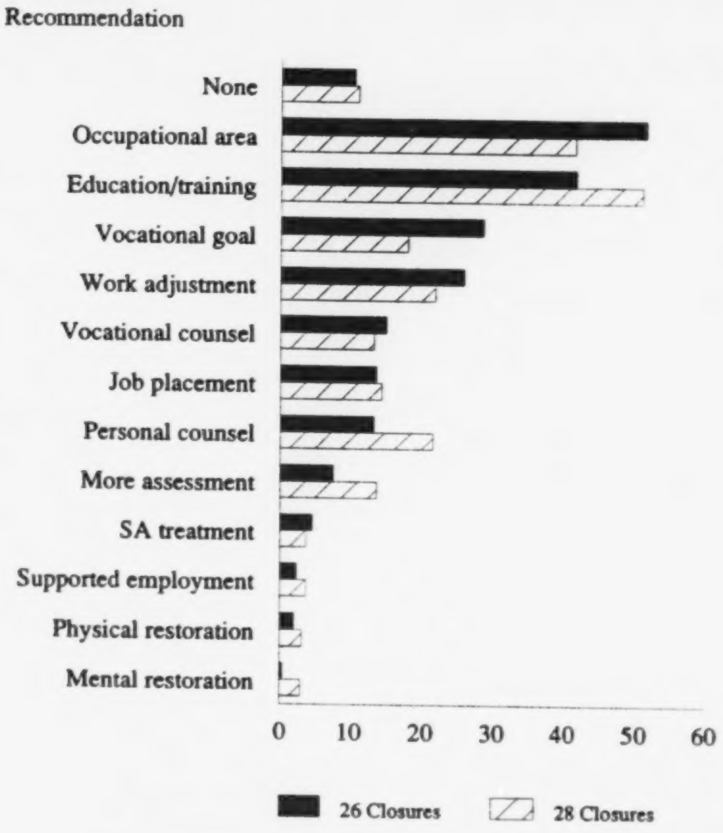
STUDY RECOMMENDATIONS

The following key recommendations regarding vocational evaluation services conclude the study report. These recommendations are based on study findings and should be used to guide vocational evaluators and rehabilitation counselors in improving service delivery practices.

1. Vocational evaluation should place more emphasis on vocational issues. Strategies for increasing vocational focus might include criteria for the content of evaluations and training of VR counselors in vocational evaluation. (Authors' note: Although the report recommendations had a strong vocational focus, it was felt that the instruments used tended to lack direct vocational relevance.)

Figure 3

Vocational Evaluation Recommendations



2. Given the study's observed positive relationship between vocational services and closure status, counselors should ensure an appropriate vocational orientation to service plans, based on findings and recommendations from vocational evaluations.

3. State VR agencies should be encouraged to make information and training available to VR counselors on uses of assessment instruments, interpretation of results, and uses of findings in service planning.

4. State VR agencies should be encouraged to make information and training available to vocational evaluation specialists on uses of assessment instruments, interpretation of results, and uses of findings in service planning.

5. State VR agencies should be encouraged to establish standards for use of tests and evaluation instruments based on reliability, bias, accessibility, vocational focus, and appropriateness for different individuals with disabilities.

6. Given the study's observed positive relationship between achievement of the vocational goal and clients' longer term positive outcomes in work status, quality of life, community involvement, and satisfaction with VR, counselors should work more closely with clients in matching job placements to the vocational goal, using vocational goal, using vocational evaluation findings as a source of information for planning.

REFERENCE

Hayward, B. J., Wine J., Thorne, J., Stoddard, S., & Wilhite, J. (1992). **EVALUTATION OF VOCATIONAL ASSESSMENT PROCEDURES AND THE IWRP PROCESS USED BY STATE VR AGENCIES.** Research Triangle Park, NC: Research Triangle Institute.

NATIONAL FORUM

INCLUSIVE COMMUNITY BUILDING: A RESEARCH FRAMEWORK FOR RETHINKING ASSESSMENT AND PLANNING

MICHAEL PETERSON
DEVELOPMENTAL DISABILITIES INSTITUTE
WAYNE STATE UNIVERSITY

Inclusive Community Building: A Research Framework for Rethinking Assessment and Planning

Abstract

We are entering an era in which paradigms regarding the role of persons with disabilities in society is changing; we are rethinking paradigms of community an human services in general as the world undergoes major social and technological changes. Inclusive communities is a concept, reality, and framework for rethinking how we support individuals and families and how we think about communities. Rather than building separate places and "programs" for people having various labels (disability, old, minority), we begin to structure individualized supports for all people. However, we also begin to move away from total reliance on professionals in this process and build more effective partnerships between people in communities and human service organizations. This new paradigm of inclusive communities has major implications for assessment and planning in human services. It is through assessment and planning, however, it occurs that services and supports are identified for individuals. Depending upon how we think about people, services, community supports, and the relationships of the characteristics of the individual to each of these, we will approach assessment and planning very differently. We are challenged to make individuals the center of the process, to provide support for self-determination, to build advocacy and systems change into planning and supports for individuals that result from assessment, and to build support teams, directed and controlled by the individual, and composed of both professionals and community members. We have much to learn; we have substantial challenges in shifting the way we deliver assessment and planning based on what we already know. All of this provides an important challenge for the future for research, development, professional preparation, and service systems change.

Inclusive Community Building: A Research Framework for Rethinking Assessment and Planning

Changing paradigms are presenting the disability community with significant questions and challenges in this regard (Bradley & Knoll, 1990). Our ways of thinking about services, advocacy, policy, and community are changing. Our challenge, opportunity, and goal is to capitalize on an historic opportunity for change to increase opportunities and quality of life for persons with severe disabilities. Increasingly, it has become clear that communities must become more inclusive and supportive places for all if people with disabilities are to be active participants and contributors (Biklen, 1992; Kent, Smith, and Kahn, 1989; LeRoy, 1991; McKnight, 1987; Minnesota Planning Council on Developmental Disabilities, 1987; O'Brien and Lyle-O'Brien, 1992). The Americans with Disabilities Act (ADA) provides an important movement in this direction. This paper provides an overview of the concept of inclusive communities and explores some implications for research and practice related to assessment and planning in human services.

Inclusive Communities

An inclusive community is a group of people who seek to enhance quality of life by welcoming, valuing and supporting a diversity of persons in participating in school and community life together. Valuing diverse perspectives from various cultural ethnic groups, persons with disabilities, and others, communities structure their activities, social and political life, and component organizations so that members engage in community activities together. People with the most severe disabilities are being included and supported in schools (Biklen, 1992; LeRoy, 1991; Stainback and Stainback, 1990), and the work place (Nisbet, 1992). They are owning their own homes (Racino, J., Walker, P., O'Connor, S., and Taylor, S., 1993). As this occurs, communities themselves are becoming better places. Out of these experiences and perspectives, we are beginning to learn important lessons about how communities can be structured to provide more effective support for the "special needs" of all people.

As we attempt to develop more inclusive communities, a clear area of focus are those public organizations and private places central to community life: local government; schools; recreation centers; libraries; homes. The typical past response has been to have ''separate places'' in communities for various populations considered to be problematic. In an inclusive community, however, the primary places of the community are structured so that a diverse group of people are together. For example, in **schools**, specialized personnel are working in teams with regular teachers to include students with special need in regular classes (LeRoy, 1991; Lipsky and Gartner, 1989; Stainback and Stainback, 1990). While special **recreation** programs for older people or people with disabilities exist, there is a movement to modify the structure of recreation programs and sports to include a wider range of ability levels engaging in recreational and sports activities together. Recreation therapists may assist in the design and implementation of such programs (Schlein and Ray, 1988). All **public services, businesses, and employers** are developing a range of supportive accommodations based on functional needs of individuals — adaptations for hearing loss, blindness, or the use of a language other than English. Again, some specialized personnel may assist businesses or public groups in making such accommodations or in developing capacity in their own organizations.

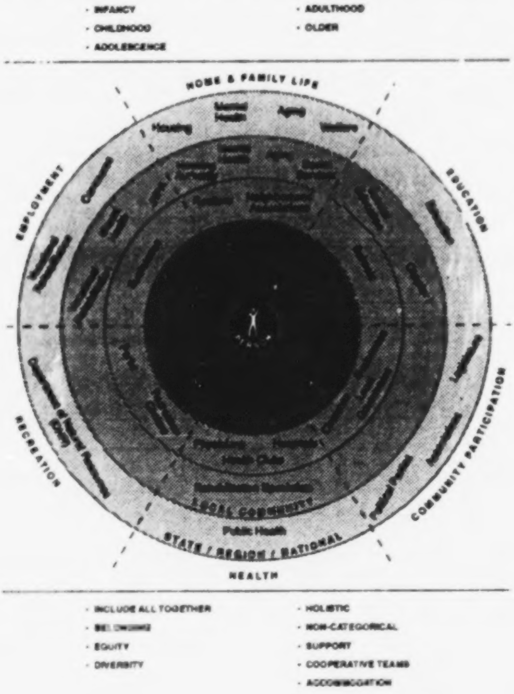
BEST COPY AVAILABLE

Conceptual framework for inclusive communities

Building better, more supportive communities requires that we think in systems terms if we are to understand the interaction discussed above. Senge (1990) suggests that a critical strategy is to move from thinking of cause and effect relationships being linear to understanding the more complex and dynamic relationship between events and actions. If we seek to develop truly inclusive communities that maximize the quality of life for all, we need a conceptual framework to organize our efforts in multiple arenas--services, multiple arenas--services, research, policy. Peterson (1993) developed such a framework which is provided below (see figure 1 below) by building on the ecological framework of Bronfennbrenner (1979) and drawing from the lessons we are learning in building inclusive communities. The framework is organized by four interactive types of components illustrated in the figure.

FIGURE I

ECOLOGICAL MODEL OF INCLUSIVE COMMUNITIES



■ Characteristics of inclusive communities: a number of characteristics are evident across domains and levels of focus when communities provide supports for the contributions of all individuals, families, and informal networks.

■ Levels of focus in an ecological perspective : we recognize that the quality of life of an individual, families, local community, and policy are highly interactive and attend to these multiple levels.

■ Life domains in a holistic framework: we consider particular areas of concern in the light of the total life of an individual and total community--education, employment, health care, etc.

■ Changing needs across the lifespan : we attend to the changing needs of individuals, families, organizations, and communities change over time as they enter different stages of development.

Characteristics of Inclusive Communities

Some basic characteristics are evident in inclusive communities that suggest it as valuable paradigm, a way of seeing and viewing the world. These characteristics can be used to guide development of strategies and enhanced quality of life as a standard against which to compare existing policies and practices. All are highly interactive. A sense of belonging is dependent upon empowerment, informal and public supports, and cooperative teaming. In this example, any one of these characteristics is both contributing to outcomes in other arenas and a legitimately desired outcome in it's own right. Characteristics include the following.

■ **include and welcome all persons together**: inclusive communities see the value of diverse groups working together and develop methods of accommodation and inclusion.

■ **relationships and belonging**: an emphasis is placed on development of informal supports, friendships, and social networks. Support and assistance, when needed, is provided towards this end by formal services. Such "natural supports", supported by the community, serve to assist individuals in having a sense of belonging in a community and in engaging in community activities.

■ **equitable distribution of resources**: communities understand that the quality of life of all people are linked together and commit to methods by which all individuals may have adequate financial resources, housing, transportation, and education.

■ **valuing diversity**: diversity is valued as people understand that diverse perspectives, cultures, values, and capacities contribute to the quality of community life.

■ **functional, non-categorical responses to needs**: communities provide individualized support to all people based on functional needs. It is recognized that various "categories" of people have common needs and resources are used and support structures developed that allow communities to respond to these needs. Separate pre-defined programs for special groups are not used in favor of community support structures for all that incorporate unique needs.

■ **flexible, individualized support**: individuals, families, community organizations are all provided support in varying ways to reach goals that they themselves set and to access their own competence and resources to contribute back to the larger community.

■ **self-determination and empowerment**: people are encouraged to develop visions for their personal and corporate lives and to direct their lives towards those visions. Empowerment of individuals, families, and communities is supported for both individual quality of life and community contributions.

■ **Cooperative teams**: communities and their organizations understand that diverse, empowered teams working cooperatively, rather than competitively, facilitate combining the contributions of individuals members in problem-solving and community development where the whole far exceeds the sum of the parts.

■ **Individual accommodation**: a range of methods are used to accommodate the participation of people with diverse characteristics.

Individual Quality of Life

Ultimately, communities are judged by the quality of life that they provide for their individual members. Inclusive communities, then, are judged by the quality of life provided to all their members, rather than a select few. Quality of life may be considered from two central perspectives, each of which is important:

■ quality of life from the perspective of family, community, state, and country

BEST COPY AVAILABLE

- quality of life from the perspective of the individual (Goode, 1990; Taylor and Bogdan, 1990)

These two perspectives are interactive. Inclusive communities seek to become places where each individual is provided support and empowered to pursue personal goals, develop individual skills, and contribute to a community that welcomes each individual and promotes a sense of belonging. A critical role of family, friends and neighbors, and the organizations and "places" within a community is to relate to each individual in such a way that these things occur. Human service organizations provide direct assistance and indirect supports to consumers. Conversely, the individual plays a critical role in contributing to the capacity of the family, informal network, and community. In other words, all individuals develop relationships with one another supporting one another's choices in various ways — directly through personal interaction, through contributions to the family, and through contributions to the community and its various organizations (Covey, 1989; McKnight, 1987).

Quality of life may be described using an ecological model that expands on the work of Goode (1990), Halpern (1992), and the Minnesota theory of work adjustment. According to this model, the value, or perceived quality of life, of an individual to friends, family, and community is a function of a complex interaction between the needs of people and expectations of role and task performance. When the individual meets the needs of others in any setting, the individual and his or her contributions are valued. Such valuing is a function of the interaction of the abilities of the person with the needs of those in the setting.

Assessment and Planning for Inclusive Communities

As we seek to improve assessment and planning in the context of an inclusive communities framework, we are faced with foundational issues and research questions. If we focus on outcomes in various life domains, we must ask questions including the following:

Self-determination. Individuals with disabilities and their families are becoming more organized and more articulate about their desire and capacity, with support, to direct their own lives. Professionals have traditionally had the greatest influence in impacting on decision-making in the planning process. How can professionals more effectively support personal choices and decision-making for persons with disabilities and their families?

Inclusive education. Students with mild through severe disabilities are returning to regular classrooms with appropriate support provided primarily in the regular education setting. In such classrooms, adaptations of the curriculum for all students in the class is encouraged. What are short and long-range learning goals for individuals with disabilities that can lead to employment and community integration? How can assessment be incorporated into the ongoing school program?

Supported employment. Supported employment uses a similar paradigm as inclusive education in the work setting. Adaptations and individualized supports are provided to assist an individual in being successful. How can assessment and planning identify jobs and needed supports? How can these be modified over time? How can planning include supports from those other than service providers--employers, co-workers, friends, family, etc.?

Natural supports. As persons with disabilities, including those with severe disabilities, become more involved in all aspects of their community, we realize that human service "helpers" are sometimes more a hindrance than a help as roles are presently configured. People in communities are connecting with individuals with disabilities in a range of roles--helpers, supports, friends. Additionally, generic services--regular education, parks and recreation programs, churches--are responding to both the spirit and letter of the Americans with Disabilities Act in including and supporting persons with disabilities. How can human service personnel support individuals with disabilities directly and provide assistance to "natural supports" (family, friends, community members) and generic service providers? What are the implications for the outcomes and implementation of assessment and planning?

Individual Profile

By an individual profile, we refer to the information that is gathered on the individual, through formal or informal means, that provides a picture of the person. Assessment is the **process** by which we obtain input from a variety of **participants** (professionals, friends, family), using any number of specific approaches or **tools** to focus on particular **content** or information of interest the results of which, for service agencies, must be **documented**, typically in a formal report.

Content of Assessment. What information is needed to help an individual make choices? A major problem exists due to the wide range of answers to this question. Typically, service agencies only ask information that they perceive as directly related to their role and services that they provide. Therefore, for example, schools assess information related to academic performance and certain cognitive and physical traits; rehabilitation agencies and vocational education focuses almost exclusively on employment. Since each organization is typically narrow in its focus, new assessment, often formal, is typically required each time an individual is involved with a new organization, even in rare cases where effective sharing of information across service agencies is conducted. Consequently, enormous amounts of time and energy are spent on assessment and a holistic picture of the individual is seldom seen, contributing to a fragmented approach to conceptualizing and operationalizing services to people with disabilities.

Additional problems exist, however. The content area of employment has received the most attention in rehabilitation around which the field of vocational evaluation has developed. However, profiles that provide a consistently useful framework have not been widely used. Those that are used are most often very restrictive and do not easily take into account supports and accomodations that may impact upon vocational decision-making.

A number of promising practices, have been developed and implemented in the last ten years. Each of these has attempted to developed a framework for a holistic focus on the total life of the individual in the community. Beth Mount and Kay Zwernik (1988) and John O'Brien (1987) effectively describe a process of personal futures planning based upon an individual profile. Peterson (1988) developed a "vocational profile" based upon a comprehensive synthesis of vocational evaluation, rehabilitation, vocational education, and supported employment literature. Callahan and Nisbet (1992) have used a similar approach as part of a national project in supported employment for persons with cerebral palsy. In schools, the work of Donn Brolin (1990) with the Life-Centered Career Education curriculum has provided a competency profile related to community living. Halpern, et al (1982) developed a profile framework for persons with mental retardation. Bellamy, et al (1990) also developed a profile based on community activities. Each of these and related efforts have common themes. Each focuses on the total life of the individual in the community--school, relationships, employment, recreation, community participation. Each is concerned with actual activities and involvement in community activities--rather than focussing on abstract traits.

While these efforts provide excellent beginnings, they are still limited for a number of reasons. Primary among these is the lack of a cohesive conceptual framework that incorporates the variety of useful assessment constructs into a meaningful whole. Such constructs include: traits, behaviors, activities, task performance, attitudes, interests, accomodations, supports in the environment. Major research questions include validation of an effective profile of an individual for specific purposes.

Process of Assessment

The process of assessment includes a number of components: the methods of assessment; participants in the assessment process and their roles; and the process of interaction between the individual, participants, and methods used. Relatively little research has been conducted on the process of assessment itself. As the field of vocational evaluation was being developed, Nadolsky (1971) developed a process model of vocational evaluation and conducted initial research comparing it to a process associated with a particular work sampling system. More recently, concerns with the efficacy and outcomes of vocational evaluation for students in schools has stimulated research comparing "curriculum-based" vocational assessment approaches to a typical vocational evaluation approach. Additionally, the advent of supported employment and expanded vocational services for students with disabilities in schools has prompted exploration and development of alternative models and processes of vocational and "career" assessment utilizing curriculum and community-based approaches. The research has been extremely limited, however, and has not resulted in systematic suggestions for improvement of assessment approaches. Most assessment research has attempted to determine validity of efficacy of specific assessment instruments in isolation of the ecological setting and process in which they are used (Bronfenbrenner, 1979). In the assessment center literature in business and industry (Thornton and Byham, 1982) research has indicated that certain processes may produce valid results when the validity of any individual instrument is low. The implications for assessment and planning for special needs persons are clear. The process by which assessment, planning, and decision-making occurs is more important than any single instrument.

FIGURE II
GUIDELINES FOR PERSON-CENTERED ASSESSMENT AND PLANNING

Individual Profile

Content	Process	Documentation
Holistic: work; home; community; leisure; relationships; support; resources. **Self-determination and empowerment**: centered on the dreams, aspirations, and goals of the person. **Individualized**: areas based on need. **Community-referenced**: focus on needs and supports in the community as focal points for change as well as the individual.	**Participants**: input from friends, family, community members, and range of human service personnel. **Tools**: real world interaction: interviews, observations and participation in community activities. **Person-centered**: learning and experiences; personal information gathering and decision-making.	**Reports**: user-friendly narrative that focuses on strengths and needs to achieve goals **Consumer**: consumer of report is the individual, family, and agency/school

FIGURE II (Continued)
GUIDELINES FOR PERSON-CENTERED ASSESSMENT AND PLANNING

Planning

Content	Process	Documentation
Holistic: work; home; community; leisure; relationships; support; resources. **Self-determination and empowerment**: focus on dreams, aspirations, and goals of the individual. **Strategies**: methods of achieving goals will include skills development, support, accomodations, and systems change in human services.	**Person-centered**: the goals, perceptions of the individual and family are central. **Team decision-making process**: a collaborative teaming process is used based on consensus building around personal goals. **Participants**: community support team that includes family, friends, community members as well as human service agencies.	**Personal Plan**: central document is for the individual to document life goals and strategies **Individual service plan**: roles of agencies are derived from personal plan and documented on their forms. With agreement by the individual, the personal plan may be attached as a referenc

Rehabilitation and special education services have focussed on improving the assessment process when challenged with serving individuals with more severe disabilities. The following guidelines have emerged and provide the framework for an effective assessment and planning process:

- the individual should be assessed while engaged in typical community activities--job try-outs, participation in the community and home activities

- observations by a range of individuals (including family and friends as well as human service personnel), interviews, and self-exploration are the most effective assessment techniques

- reports should provide narrative descriptions that capture a picture of the life, capabilities, and needs of the individual. Instruments such as checklists, rating scales, etc. should be used only to assist in developing such a picture.

These assessment strategies are in stark contrast to the more typical process of interviewing and formal testing in an environment separated from typical activities in the community. Vocational evaluation in rehabilitation was established to facilitate vocational planning with more severely disabled individuals who were being referred to rehabilitation facilities in the 1960's. Nadolsky (1972) conducted early research comparing a comprehensive process of vocational evaluation that incorporated psychometric tests, work samples, and job-tryouts. Early definitions of vocational evaluation (1975) focussed on the use of "work, real or simulated" as the focal point of assessment.

During the last 20 years, however, vocational evaluation in rehabilitation has moved away from use of real world experiences--job tryouts, work samples that simulate real work tasks--to increased use of testing batteries that focus on evaluation of traits in a combination of abstract performance tasks. Systems such as VALPAR, McCarron-Dial, HESTER, and others have essentially recreated the sterile testing environment with resultant limitations in outcomes and usefulness.

In recent years, supported employment advocates have again emphasized the use of real world job experiences--job tryouts, etc.--as the focal point of assessment and recommended against the use of formal vocational evaluation. In some states, such recommendations have been institutionalized into procedures by which no assessment occurs prior to job placement.

A number of promising practices in improving assessment and planning processes have also occurred in the last few years. In schools, curriculum-based vocational assessment has been developed as a model by which observations of student's performance and interest in various school and community-based activities are documented (Albright and Cobb, 1986; Peterson, 1986). LeConte (1985) described processes of vocational evaluation in vocational-technical schools that incorporate direct involvement in the vocational program and advocacy and support on an ongoing basis in vocational education. Halpern, at al. (1982) described a process of "Program-related Assessment" that utilized direct observations and tests of functional knowledge.

Other promising practices occur in the context of innovations in planning and on-going community support for persons with disabilities. As friends, family, neighbors, co-workers develop relationships with persons with disabilities and commit to providing support and assistance, they also often become part of an informal and ongoing process of assessment. The most typical format has occurred in the context of planning meetings--personal futures planning, circles of support (Mount and Zwernik, 1988). As discussed below, the initial stages of such a meeting are to develop a profile, a "picture", of the life of the individual. This becomes an informal process of assessment. An important research question is as follows: to what degree are specific, targeted assessment activities prior to such a meeting important to facilitate outcomes?

Individualized Service Planning

Organizations that provide services to persons with disabilities, and other individuals with special needs, are most often required by law to develop an individualized plan of services based upon assessment information. The process by which planning occurs and it's outcomes are central to the efficacy of services and impacts in the lives of individuals. Despite this fact, relatively little research has been conducted on the process of individualized service planning. Much material has been developed, however, for training of personnel.

Subsequent to legislation, largely passed in the 1970's, that required individualized service plans, a number of materials have been produced designed to train professionals in develop such individualized plans. These include: individual education plans; work adjustment planning; planning for individualized written rehabilitation plans; and individualized program or habilitation plans. These materials have made important contributions and include consistent themes:

- identification of goals, measurable objectives, strategies and evaluation criteria as specified in law
- detailed information regarding the documentation of plans
- procedures for recording on-going progress

During the last ten years, an increasing emphasis has been placed on empowerment and self-determination of the person with a disability and family members in the planning process. Beginning with the requirement that the individual with a disability sign the rehabilitation plan in the rehabilitation act of 1973, other legislation has strengthened such requirements: P.L. 94-457 requiring and individual family services plan related to early intervention; increased safeguards and requirements in special education law and litigation; strengthening of protection and advocacy in a range of service systems.

Promising practices in planning are most exemplified in various examples of personal futures planning (Forrest, M., 1988; Mount and Zwernik, 1988; O'Brien, 1987). In personal futures planning a group of individuals is drawn together who are interested and willing to provide support in the life of the individual. Forrest (1988) describes a "circle of support" of a network of contacts drawn around an individual in crisis that functioned as a planning and advocacy group. Mount and O'Brien have similarly focussed personal futures planning largely around community contacts--friends, family, neighbors, community members. Therefore, the role of professionals has been more limited.

These approaches contrast strongly with the typical professional "staffing" where at minimum professionals vastly outnumber the person with a disability and their community contacts. The power relationship and influence is unavoidably focussed on professionals in such circumstances with the individual and family feeling overwhelmed. While limited research has been conducted regarding these dynamics, they reflect the professional literature that focuses on the analytic process by which the professional manipulates data and facts and using various techniques (matching systems, etc.) develops "recommendations" for services. Virtually no training literature has been developed, apart from the personal futures literature referenced above, regarding how professionals may support and empower individuals and their families in a planning process.

Some beginning efforts are occurring, however, to blend the efforts of community members with support in planning and services provided by human service personnel. Peterson (1992) has developed an approach entitled life assessment and planning. Dileo (1991) and Callahan (1992) have developed similar processes as well. All of these authors have drawn heavily on the work of O'Brien, Forrest, and Mount.

Much additional work is needed, however. On the one hand, a truly person-centered process is needed that is human, warm, caring, and supportive incorporating the personal support of typical community members with support and expertise offered by human service organizations. On the other hand, processes are needed whereby agencies and organizations can operate efficiently, fulfill standards for obtaining funding, and maintain accountability. The challenge and difficulty is that these two important characteristics of helpful assessment and planning practices require very different methods of thinking and operating. While not incompatible and potentially mutually supportive, the challenge to facilitate a person-centered, humane process that incorporates technical expertise and bureaucratic requirements is substantial.

REFERENCES

Albright, L., and Cobb, B. Curriculum-based assessment and program planning for handicapped students in secondary vocational education programs Long Beach: Bureau of Employment-Related Education and Training for Special Populations, California State University-Long Beach.

Bellamy, G.T. and Wilcox, B. (1988) Activities catalog Baltimore: Paul Brookes.

Biklen, D. (1992). Schooling without labels: parents, educators, and inclusive education Philadelphia: Temple University Press.

Bradley, V. J., Knoll, J., & Agosta, J. M. (1992). Emerging issues in family supports (AAMR Monograph No. 18). Washington DC: AAMR.

Brolin, D. (1990) Life-centered career education Reston, VA: Council for Exceptional Children.

Bronfenbrenner, U. (1979) The ecology of human development Cambridge, MA: Harvard University Press.

Callahan, M. (1992) The vocational profile strategy: an approach to individualized employment planning Gautier, MS: Marc Gold and Associates.

Corthell, D., and Griswold, P. The use of vocational evaluation in vocational rehabilitation Menomonie, Wisconsin: University of Wisconsin-Stout, Stout Vocational Rehabilitation Institute.

Covey, S. (1991) Principle-centered leadership New York: Simon and Schuster.

Goode, D. (1990). Thinking about and discussing quality of life. Quality of life: perspectives and issues ed. Robert Schalock. Washington, D.C.: American Association on Mental Retardation.

Halpern, A. (1992) Quality of life as a conceptual framework for evaluating transition outcomes. Interchange. Urbana-Champaign, Illinois: Transition Research Institute at Illinois, University of Illinois.

Halpern, A., Lehmann, J., Irvin, L., and Heiry, T. (1982) Contemporary assessment for mentally retarded adolescents and adults Baltimore, MD: University Park Press.

LeConte, P. (April, 1985) **The uses of vocational evaluation** in Vocational Education Journal Vol. 60: No. 3, pp. 41-43.

Kent, C., Smith, L., & Kahn, C. (1989) A study of day care options for children with disabilities and their families. Detroit, MI: Wayne State University.

LeRoy, B. (1991) Building inclusive school communities Detroit, Michigan: Inclusive Communities Press, Developmental Disabilities Institute, Wayne State University.

Lipsky, D. and Gartner, A. (1989) Beyond separate education: quality education for all Baltimore: Paul Brookes.

McKnight, J.L. (1987, Winter). Regenerating community. Social policy, pp. 54-58.

Minnesota Planning Council on Developmental Disabilities. (1987). A new way of thinking. St. Paul, MN: Minnesota Governor's Planning Council on Developmental Disabilities.

Mount, B. and Zwernik, K. (1988) It's never too early; It's never too late St. Paul, MN: Metropolitan Council.

Nadolsky, J. (1972) Development of a model for vocational evaluation of the disadvantaged Auburn, AL: University Printing.

Nisbet, J. (1992) Natural supports in school, at work, and in the community for people with severe disabilities Baltimore: Paul Brookes Publishing Company.

O'Brien, J. and Lyle-O'Brien, C. (1992) Members of each other: perspectives on social support for people with severe disabilities. Natural supports in school, at work, and in the community for people with severe disabilities Ed. Jan Nisbet. Baltimore: Paul Brookes Publishing Company.

O'Brien, J. and Lyle, C. (1987) Framework for accomplishment Decatur, GA: Responsive Systems Associates.

Peterson, M. (1986) Vocational assessment of special students: a procedural manual Lathrup Village, MI: VOC-AIM.

Peterson, M. (1988) Vocational assessment of special students for vocational education: A state-of-the-art review Columbus, OH: National Center for Research in Vocational Education, Ohio State University.

Peterson, M. (1993) Supporting individuals and families in inclusive communities Detroit, Michigan: Inclusive Communities Press, Developmental Disabilities Institute, Wayne State University.

Racino, J. (1993) Living in the community: Independence, support, and transition. In F.R. Rusch, L. DeStefano, J. Chadsey-Rusch, L.A. Phelps, and E. Szymanski (Eds.), Transition from school to adult life: models, linkages, and policy Sycamore, IL: Sycamore Publishing Company.

Schlein, S. and Ray, T. (1988) Community recreation and persons with disabilities: strategies for integration Baltimore, Maryland: Paul Brookes Publishing Company.

Senge, P. (1990) The fifth discipline: the art and practice of the learning organization New York: Doubleday.

Stainback, W. and Stainback, S. (1990) Support networks for inclusive schooling: interdependent integrated education. Baltimore: Paul H. Brookes Publishing Company.

Taylor, S. and Bogdan, R. (1990). Quality of life and the individuals's perspective. Quality of life: perspectives and issues ed. Robert Schalock. Washington, D.C.: American Association on Mental Retardation.

Michael Peterson, Ph.D.
Wayne State University
Justice Bldg., 6001 Cass, Suite 326
Detroit, MI 48202

PRELIMINARY FINDINGS OF A NATIONAL STUDY OF VOCATIONAL EVALUATION PRACTITIONERS' JOB TASKS AND FUNCTIONS

DARRELL W. TAYLOR AND JAMES E. BORDIERI
REHABILITATION INSTITUTE
SOUTHERN ILLINOIS UNIVERSITY AT CARBONDALE

Abstract

This study examined the job tasks and functions of vocational evaluation practitioners employed in four employment settings. The Vocational Evaluator Job Task Inventory-Revised (VEJTI-R) was developed for this study and consisted of an employment/ demographic section and a 84-item job task section. It was completed by 526 vocational evaluators in the United States, and a principal components analysis with a oblique rotation procedure was used to group the specific job tasks into more general job functions. A six factor solution, explaining 46.4% of the variance, was considered to be the most interpretable. The results also suggested that the job tasks and functions of respondents differed for employment setting on five of the identified job functions.

Vocational evaluators are being employed in an array of settings, not only the traditional sites (e.g., state vocational rehabilitation agencies and non-profit facilities), but also in for-profit rehabilitation companies. Strong movement within the proprietary sector has reshaped the field of vocational evaluation. Public schools are employing greater numbers of vocational evaluators due to legislative mandates. The Commission on Certification of Work Adjustment and Vocational Evaluation Specialists (CCWAVES) had estimated that there were eight times as many potential certified vocational evaluators employed in school systems than there were in traditional rehabilitation settings (McDaniel, 1984).

The particular work setting in which vocational evaluation practitioners are employed are important determinants of professional activities. The job functions of vocational evaluators practicing in differing settings may vary substantially, depending upon the organization's philosophy and goals. Along with the diversification of employment settings, technological advances in assessment procedures and expanded client services have contributed to the complexity and scope of the evaluator's job functions.

As the occupation of vocational evaluation evolved into a professional specialty, it became necessary to systematically define and examine its job tasks and requisite skills. Most of the research directed at vocational evaluators was conducted in the 1970's (e.g., Coffey, 1978; Pruitt, 1972; Sink, Porter, Rubin, & Painter, 1979). Coffey (1978) examined 175 task statements given to vocational evaluators, educators, and graduate students to determine the relative importance of various competencies required for the practice of vocational evaluation. The identified nine competency categories have formed the basic framework for vocational evaluation practice. Coffey's (1978) study is considered to be the seminal work in the field of vocational evaluation; however, the results are over a decade old and vocational evaluation practice has evolved since that time.

Wright, Leahy, and Riedesel (1987) study was more recent and took into account differing employment settings, its focus was not on vocational evaluators. Wright et al. (1987) examined the professional competencies of rehabilitation counselors, placement specialists, and vocational evaluators, working in three differing employment settings (public, private non-profit, and private for-profit). Their study identified 10 competency clusters which cut across the three professions and employment settings. When comparing job functions importance, differences were apparent. Leahy and Wright (1988) reported that certain job function importance ratings of vocational evaluators differed from those of rehabilitation counselors and placement specialists. Data analyses also revealed that the amount of time vocational evaluators devoted to various work functions varied according to their employment setting. For example, vocational evaluators in the public sector spent a greater portion of time in the assessment area than did private non-profit and for-profit evaluators. The percentage of time vocational evaluators spent on case management activities in the two private sectors were approximately twice as high as in the public sector (Leahy & Wright, 1988).

In a more recent study, Taylor, Bordieri, Crimando, & Janikowski (in press) surveyed vocational evaluation practitioners concerning the work that they perform. A principal components analysis was used to group specific job tasks into more general job functions. Data from 188 vocational evaluators providing vocational assessment in either public rehabilitation, non-profit facilities, schools, or the private for-profit sector within the state of Florida were analyzed. Job tasks and functions of respondents differed as a function of employment setting on three of the identified job function areas. Respondents employed in the public and private non-profit sectors consider the "vocational assessment" job function more important than did the private for-profit group. However, the private for-profit respondents considered the job function entitled "matching individuals to jobs" more important in their job role than did the individuals employed in the other two settings. With regard to the job function "computer applications and administration", the public and private for-profit sectors deemed this factor more important in performance of their jobs than the private non-profit respondents (Taylor et al., in press).

Although the past role and function research has served to clarify the vocational evaluator's work role, there still remains a need for a comprehensive investigation of the job tasks and functions of vocational evaluators employed in the four major sectors of practice. The purpose of this study was to survey vocational evaluators employed in the state agency, public school, private non-profit, and private for-profit settings in order to group their job tasks into meaningful job function areas and compare job function importance across four employment settings.

Method

Instrumentation

The Vocational Evaluator Job Task Inventory-Revised (VEJTI-R) was constructed especially for this study and was designed to gather data on the job tasks of vocational evaluators employed in various employment settings and to obtain related employment and demographic information on the participants. An initial item pool of 182 job task statement items was created by reviewing the relevant literature and drawing items from previously published role and function surveys (i.e., Coffey, 1978; Wright et al., 1987).

A panel of 5 experts was assembled in order to systematically examine the content of the initial item pool for the VEJTI-R. The experts were members of the CCWAVES Research Committee. Each panel member was provided with the list of job task statements and asked to review the items for clarity and comprehensiveness by adding, deleting, or making modifications to the 182 items. The reviewers rated the job tasks items and selected 84 statements for the final instrument. The importance rating format for the VEJTI-R entailed a five point Likert-type scale where 4 = "maximal" or highest importance and 0 = "minimal" or no importance.

Participants and Procedures

The sample used in the research consisted of individuals who were employed at the time of the study as vocational evaluators in either state rehabilitation offices, public schools, non-profit facilities, or the private for-profit sector in the United States. The sampling pool was established using six mailing address sources: (a) the Commission on the Accreditation of Rehabilitation Facilities listing of facilities providing vocational evaluation services; (b) the membership list of Vocational Evaluation and Work Adjustment Association; (c) the CCWAVES list of certified vocational evaluators; (d) National Association of Vocational Special Needs Personnel; (e) National Association of Vocational Assessment in Education; and (f) the Council for Exceptional Children - Division of Career Development.

A total of 2,796 surveys based on systematic random sampling selections, with accompanying explanatory cover letters and self-addressed envelopes, were sent out in November of 1992. Of the original 2,796 surveys mailed, 718 were returned. One hundred ninety-two of the returned surveys were excluded from the study; 118 respondents indicated that they no longer provided vocational evaluation services, and 74 surveys were returned with no forwarding address. Hence, of the 2,796 potential participants remaining in the study, 526 surveys were used, for an effective response rate of 18.8%.

Of the 526 vocational evaluators who participated in the study, 343 (65.2%) were females. They ranged in age from 23 to 62 years (*M* = 40.0, *SD* = 8.0). In terms of highest educational degrees, 4 (0.8%) reported having a high school diploma, 2 (0.4%) had associate of arts degrees, 110 (20.9%) had bachelor degrees, 364 (69.2%) held masters degrees, and 46 (8.7%) had doctorates. Reported majors for the group included: rehabilitation counseling (*n* = 154, 29.6%), education (*n* = 95, 18.3%), psychology (*n* = 84, 16.2%), guidance and counseling (*n* = 49, 9.4%), vocational evaluation (*n* = 44, 8.5%), special education (*n*=61, 11.7%), sociology (*n*=20, 3.8%), and occupational therapists (*n* = 8, 2.5%). Regarding their employment setting, 76 (14.5%) were working in state/federal offices, 173 (33.0%) were working in public schools, 155 (29.6%) were in private non-profit facilities, and 120 (22.9%) were employed in the private for-profit sector (two participants did not respond to this item). Respondents had a mean of 8.8 years of rehabilitation work experience (*SD*=1.0). The disability group they most often served was composed of orthopedic 186 (35.6%), learning disability 132 (25.3%), emotional/physical disability 100 (19.2%), traumatic brain injury 58 (11.1%), spinal cord injury 17 (3.3%), and others 29 (5.5%).

State agency participants reported serving mainly individuals with orthopedic disabilities (34.2%). Respondents employed in the public schools were most likely to serve individuals with learning disabilities (64.2%). The groups most often served by the private non-profit participants were individuals with mental retardation (38.7%). Respondents from the private for-profit sector were overwhelmingly served the orthopedically disabled population (84.2%). The category least likely to be served by any of the four sectors was persons with visual and hearing impairments.

Results

Job Functions of Vocational Evaluators

Using the responses on the importance

scale, two principal component analyses were computed to arrive at an optimal grouping solution of VEJTI-R items. The FACTOR procedure on SPSS-X was used. The resulting factor matrixes were rotated obliquely—using the Oblimin rotation in SPSS-X—inasmuch as there were sizable correlations between components, as one would expect.

In the first principal components analysis, 17 factors were extracted using the Kaiser-Guttman criterion of an eigenvalue cutoff of 1.0 or greater. Although the 17-factor solution accounted for approximately 64.4% of the total variance, a scree test (Cattell, 1966; Gorsuch, 1983) suggested that a six-factor solution was more appropriate. Thus, a second principal component analysis was performed specifying a six-factor solution accounting for 46.4% of the total variance. The six factors identified were scrutinized and named: Vocational Counseling (Factor I), Behavioral Observation (Factor II), Occupational Development (Factor III), Standardized Assessment (Factor IV), Professionalism (Factor V), and Case Management (Factor VI).

Computation of Cronbach's Alpha showed relatively high reliability coefficients for each of the six factors. Internal consistency estimates were obtained on those items that meet the .40 or greater loading criterion for each factor structure. Individual reliability coefficients for each factor were as follows: Factor I =.92, Factor II =.93, Factor III =.88, Factor IV =.90, Factor V =.79, and Factor VI =.76. The aggregate Cronbach's Alpha for the 84 job task items was .97 (n = 359).

Differences in Job Functions Determined by Employment Setting

A multivariate analysis of variance (MANOVA) was planned to analyze differences between the standardized factor scores for the six factors (dependent variables), and the four employment setting groups of state, public school, private non-profit, and private for-profit (independent variable). First a Box's M test was conducted to test the assumption of homogeneity of covariance. This preliminary analysis revealed significant differences, F (63, 327815) = 3.6, p < .0001, indicating that the MANOVA would have given misleading results. Therefore, separate univariate analyses of variance, again using SPSS-X, were computed on the respondents' group means for the six factors to examine the relationship between job function and employment setting. Significant differences were found between employment settings on all Factors except Factor I. The group means, standard deviations, and F values for the four employment settings are reported in Table 1.

Significant differences were found for Factor II (Behavioral Observation), Factor III (Occupational Development), Factor IV (Standardized Assessment), Factor V (Professionalism), and Factor VI (Case Management) and one or more of the employment settings. Follow-up Scheffe tests (p < .01) were performed to interpret the following significant effects:

1. The Scheffe post hoc test results revealed that respondents employed in the private for-profit sector differed significantly (M = 2.18) as compared to the public school (M = 2.54) and private non-profit (M = 2.70) employment settings for Factor II (Behavioral Observation). This factor appears to be relatively less important in the private for-profit setting.
2. A significant difference was observed for the mean factor scores of respondents employed in the private for-profit sector (M = 3.00), on Factor III (Occupational Development) compared to those in both the state agency (M = 2.56) and public school (M = 2.50) employment settings. As might be expected, this factor was more important in the for-profit sector than either of the above two settings.
3. The private non-profit employment group (M = 3.42) differed significantly from the public school group (M =3.17) on Factor IV (Standardized Assessment). Public school sector evaluators found this function to be less important than evaluators in the private non-profit setting.
4. In Professionalism, (Factor V) the results revealed that significant differences existed between the public school (M = 2.78) and both the private non-profit (M = 2.52) and private for-profit (M = 2.46).
5. In Case Management (Factor VI) the results revealed that significant differences existed between the private non-profit (M = 3.18) group and the public school (M = 2.98) setting. This factor was more important in the non-profit sector than in the public school group.

Discussion

The practice of vocational evaluation has expanded into employment settings other than the traditional state vocational rehabilitation agency and non-profit rehabilitation facility. Increased opportunities in the public schools and private rehabilitation sector have challenged vocational evaluators to adapt to these new environments. The major implication of this national study was that, although the job tasks of vocational evaluators are more similar than dissimilar, emphasis in job function areas differs according to employment setting.

Table I

Cell means and standard Deviations by employment setting (n = 523)

	State		Public		Non-Profit		For-Profit		
Factor	M	SD	M	SD	M	SD	M	SD	F (3,519)
I	3.23	0.68	3.29	0.59	3.42	0.47	3.29	0.59	2.65
II	2.45	0.91	2.54	0.83	2.70	0.71	2.18	1.08	8.36*
III	2.56	0.76	2.50	0.81	2.72	0.71	2.99	0.65	11.30*
IV	3.32	0.64	3.17	0.71	3.12	0.51	3.28	0.59	4.20*
V	2.53	0.60	2.78	0.66	2.52	0.66	2.46	0.75	6.48*
VI	2.98	0.68	2.90	0.78	3.19	0.55	3.12	0.63	5.63*

*p < .01

With regard to employment setting, significant differences were obtained on five of the job function categories. Evaluators employed in private for-profit settings perceived Behavioral Observation as less important compared to those employed in public school and private non-profit settings. In contrast, private for-profit evaluators rated Occupational Development as more important than evaluators in public school and state agency settings. Private non-profit evaluators rated Case Management and Standardized Assessment as more salient job functions than those employed in public school settings. Evaluators employed in public school settings perceived Professionalism as being more important compared to those employed in private non-profit and private for-profit settings. The results revealed that evaluator trainers should differentiate their curriculum based on the individual service population and should prepare them to approach their future career with the understanding of different roles and functions of vocational evaluation. In-service training for the evaluators should also be adjusted based on their training population.

Since many for-profit evaluators are either self-employed or market their services to third party providers, they consider case management an important aspect of their work role. Also, computerized transferable-skill programs assist these evaluators in providing documentable and defensible recommendations to insurance carriers which withstand the test of possible legal litigation.

The data from this study suggest the ongoing need for more training among vocational evaluators. Results indicated that many persons responding to this survey had little formal training in vocational evaluation. Of the 526 respondents, only 8.5% reported earning degrees with an emphasis in vocational evaluation. On-the-job or short term workshops were the most frequently cited sources of training for persons providing vocational evaluation services to clients. Current study respondents reported an average of less than three continuing education courses related to vocational evaluation.

Training programs, which focus on the job tasks and the six functions generated from this study might prove useful in establishing a core content vocational evaluation curriculum. Results of the present study suggest that the design of educational curricula for preparing persons involved in vocational evaluation positions should be extensive enough to encompass a broad array of job tasks.

References

Cattell, R.B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, *1*, 245-276.

Coffey, D. (1978). Vocational evaluator competencies and their relevance as perceived by practitioners and educators in vocational evaluation (Doctoral dissertation, Auburn University). *Dissertation Abstracts International*, *39*, 3364-3365.

Gorsuch, R.L. (1983). *Factor analysis* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Leahy, M.J., & Wright, G.N. (1988). Professional competencies of the vocational evaluator. *Vocational Evaluation and Work Adjustment Bulletin*, *21*(4), 127-132.

McDaniel, R.S. (1984). Reviewer comment. Cited in *Rehabilitation Briefs*. National Institute of Handicapped Research (1984). School to work: A model for vocational preparation. *Rehabilitation Briefs*, *8*(7).

Pruitt, W.A. (1972). *Task analysis of the vocational rehabilitation graduate major with an emphasis in work evaluation: A comparative study of two groups of work evaluators*. Menomonie, Wisconsin: Graduate College, University of Wisconsin-Stout.

Sink, J.M., Porter, T.L., Rubin, S.E., & Painter, L.C. (1979). *Competencies related to the work of the rehabilitation counselor and vocational evaluator*, Vol. 1. Athens, GA: University of Georgia.

Taylor, D.W., Bordieri, J.E., Crimando, W., & Janikowski, T.P. (in press). Job tasks and functions of vocational evaluators in three sectors of practice. *Vocational Evaluation and Work Adjustment Bulletin*.

Wright, G.N., Leahy, M.C., & Riedesel , P.R. (1987). Research on professional rehabilitation competencies. *Rehabilitation Counseling Bulletin*, *31* (2).

Darrell W. Taylor and James E. Bordieri
Rehabilitation Institute
College of Education
Southern Illinois University
Carbondale, IL 62901